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ABSTRACT

The three-part document presents the final results of Project Mercury, an attempt by Macomb County Community College (Michigan) to provide better consumer information to prospective students regarding instructional programs and financial aid, thereby assisting them in making more informed decisions about training and jobs, the pursuit of postsecondary education in general, and attendance at Macomb in particular. The final report summarizes the processes and problems of producing the two information packets included in the document, provides background information on Macomb, and presents recommendations to those concerned with providing better information to students. Closing the Money Gap, the first information packet, outlines steps to be taken when applying for financial aid, provides basic information regarding the financial aid system, and describes 16 financial aid programs. Closing the Information Gap, the second information packet, discusses benefits commonly associated with college; examines interests and abilities in terms of career areas; discusses individual programs in terms of related jobs, requirements and costs, and employment experiences of recent Macomb graduates; presents an index of courses which includes estimates of the total cost of tuition, fees, required and recommended texts and supplies; and presents a glossary of related terms. (LH)

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ED149796

REPORT TO
THE FUND FOR THE IMPROVEMENT OF POSTSECONDARY EDUCATION
ON
PROJECT MERCURY

MACOMB COUNTY COMMUNITY COLLEGE
WARREN, MICHIGAN

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

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National Project I:
Better Information for Student Choice

Supported by HEW Grant:
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PREFACE

- Thanks, couldn't have done it without your help . . .

This report summarizes the processes and problems of publishing Closing the Information Gap: A Program and Employment Information Prospectus and Closing the Money Gap: A Financial Aid Information Packet for Macomb County Community College. Taken together we called them "Project Mercury."

This project served the college as motivation for the publication of what we (and an increasing number of people) have come to consider to be better information for students. We fully expect that our efforts will be improved upon by other colleges and universities. Better information is not, nor should it be, a momentary concern, but rather an ongoing effort dedicated to our prospective students and the future.

Although a continuing goal at Macomb County Community College has been to provide better information to students, it has not always been reached. We haven't always known what better information is, but we are confident that "Project Mercury" has moved us closer to that goal. Looking back, it is not likely that we would have learned as much as we did nor gone as far as we did without the financial support and encouragement of the Fund for the Improvement of Postsecondary Education, the suggestions, advice and helpful critiques of members of the National Task Force as well as others, both inside and outside our college. To all of you we say, "Thanks, couldn't have done it without your help."

Karl Wagner
Ron Dowe
Staff of Project Mercury,
Macomb County Community College

PART I

THE BEGINNING . . .

- Traditional Information

Probably in no area of higher education does custom rule more rigorously over reality than in the making of college catalogues and publicity materials. A vast consensus reigns: every college seems composed of equal parts of rolling lawns, smiling coeds, sympathetic counselors and learned professors. In publicity materials these stand side-by-side; in catalogues they are interspersed with long lists of fees, of courses, and of faculty (including emeriti) with degrees attached.

There are good reasons for the lockstep. It is reasonable that to prospective students, colleges should wish to appear as places of charm and learning that will lead initiates into a better future. It also makes good sense for colleges to appear to each other as equal fellows in the fraternity of higher education. Such information may have its purpose, but there is something to be said about the argument that it may tend to seriously mislead the potential student.

This may be especially true of a large, comprehensive community college in a workingperson's suburb. Macomb County Community College is such an institution. It is the only college serving a highly industrialized county of 700,000 mostly blue-collar workers. Its dozens of one-and two-year occupational programs reflect its orientation to the community well. It is truly a workingperson's college.

Clearly, traditional information of the type described above is out of place in such a setting.

- **Why Better Information?** Better information is needed--information that will enhance choice and access not only between and into programs and curricula, but between and into colleges and/or other postsecondary institutions--information that will hold the college accountable to the "consumer"--information that the prospective student has a right to have--information that does not mislead.

- **Better Information: Who Wanted It?** These reasons provided the motivation for the college's Recruitment Committee to take the first steps into the arena of better information. This committee represents the offices of the college most directly concerned with and affected by the quality of information provided to prospective students--Admissions, Counseling and Public Relations. The committee had decided to prepare and publish an information booklet for prospective students dealing with such topics as the outcomes of attendance (especially employment), the "real" costs of attendance, and financial aid. While making plans for its information booklet, the application guidelines for FIPSE's National Project I were brought to the Committee's attention. The apparent congruence between what FIPSE was looking for and what the committee wished to accomplish led to a recommendation to apply for a grant. The recommendation was fully supported by the college's president and the executive officers of each campus. The rest is history.

PART II

BUILDING THE MACOMB PROSPECTUS

- Initial Steps

The first steps we took in building our prospectus involved clarifying its objectives, identifying its clientele, determining what information was needed; developing a workable outline; identifying prospective student information needs; establishing an advisory committee and identifying information sources.

- Objectives

The broad objectives of our prospectus were identified to be:

- To provide prospective students with better information which would assist them to make more informed decisions about training and jobs, the pursuit of postsecondary education in general, and attendance at Macomb County Community College in particular.
- To provide prospective students with information not previously available dealing with some of the conditions and outcomes of attendance at Macomb County Community College.

- Intended Clientele

An important question we felt had to be answered early was: for whom was our prospectus intended? The obvious answer, of course, was prospective students, but this we knew to be an extremely diverse group, unlike those typically found in most colleges and universities. Our research told us that the "typical" Macomb County Community College student was most likely to be a white male, 27 to 28 years old. He would attend school on a part-time basis and work 20 to 40 hours per week. He would have a 20% chance of being a veteran and although he was a 'C' student in high school, he would maintain a slightly better than 'C' average at Macomb. While likely to be undecided about his career plans, he would be interested in the practical applications of the skills he might develop while enrolled in the college. On the basis of this statistical description, it was clear to us that the information needs of at least two groups of prospective students had to be considered: the older adult seeking re-entry to the job market or changing occupations or seeking the upgrading of certain skills; the high school student or recent graduate making postsecondary or career plans. We also felt that a third group should not be overlooked. This group is composed of persons who might influence prospective student choices--parents, high school teachers and counselors, peers, and college personnel.

- **What Information?**

Given this clientele it appeared logical to us to include in our prospectus information on interests, abilities, occupations, costs, employment opportunities, and how all of these related to the instructional program of the college. On the one hand, we hoped that prospective students would as a consequence of reading this material know more about themselves, more about the world of work awaiting them, and more about the relationship of both of these factors to the programs offered by the college. Such exposure and personal assessment might encourage them to both begin career exploration early and also to anticipate financial obligation. On the other hand, we felt that persons who advise and counsel students, both formally and informally, would welcome straightforward, pertinent, and accurate information. Indeed some persons have commented to us (perhaps with tongue-in-cheek) that parents and counselors would be more interested in reading the information we proposed to provide than would their counselees.

We also anticipated that many prospective students and their advisors would benefit from comprehensive yet summarized information describing access to, content and processes of financial aid. With all of this information available in one place and at one time, we hoped that any prospective student might have a better idea about how the financial aid system works. Certainly, at the very least, we hoped that by providing such information those with financial need would have increased access to financial aid and consequently to postsecondary education.

- Prospectus Outlined

With objectives to guide us, an understanding of our clientele, and some assumptions about their information needs, we felt that we could develop a final but flexible outline of our prospectus. Original plans called for all of it to be under one cover. Although these plans changed, the major topics outlined in our original grant proposal remained essentially the same.

- The benefits of education:
    - Economic
    - Social
    - Cultural
- The costs of education:
    - Economic - full analyses of cost by program and course
    - Time--and forgone income
- Financial aid

- Matching interests and abilities to specific careers
- Individual career programs analyzed by:
    - Daily job activities
    - Time investment in education
    - Starting salaries of recent graduates
- A glossary of academic jargon

- Prospective Student Information Needs

With our outline finalized we were ready to begin the process of identifying prospective student information needs. Although our project did not have a built in needs assessment component, we did not lack resources on prospective student information needs. In addition to feedback from the student government, the student newspaper, individual students, faculty members, counselors, administrators, and our advisory committee, we found the resources outlined below to be extremely valuable. Without going into a detailed discussion on the findings of each resource, we discovered that every opinion and every piece of research supported our assumptions, namely, that prospective students have a high need for complete and detailed information about financial aid, costs of attending, curricula (majors), and employment as an outcome of training.

- National Task Force Resource Agencies--We used the findings of Mary Kinnick, Joan Stark, and Tom Flynn. We participated in Oscar Lenning's project, thereby gaining feedback on the information needs of prospective students in Macomb County as perceived by counselors, parents and the students themselves. We also obtained data on the need for financial aid information as a result of our participation in the CEEB Better Information Project. (See Appendix A)

- The National Student Education Fund--Data on student information needs, information priorities, and recommendations made by NSEF were used.
- State and national legislation--legislation proposed or in force dealing with information provided to students, was analyzed.
- Newspapers, magazines, journal articles, books and other periodicals dealing with student information needs were analyzed.

- Project Mercury Advisory Committee

To advise us in the planning and development of our prospectus, which we now called, Project Mercury, an advisory committee was formed. It was a broad based committee composed of college staff (including Admissions, Financial Aid, Counseling and Public Relations) the student body, local high school counselors, a shopping mall public relations director, and an investment counselor. The committee proved to be extremely helpful in that its members provided us with insight from a variety of viewpoints. They strongly supported the need for better information, but they did not always reach consensus on what it is.

For example, they unanimously rejected the need to include information on forgone income. They argued that a prospective student was only interested in what the immediate "out-of-pocket" cost would be--how much it would cost to register, not how much his time and forgone income might be worth. Although we chose to include such information in our prospectus, the advice of the committee seemed to be borne out by a small group of students who were asked for their opinions on this issue.

On another occasion we were advised by the committee, at the prompting of the investment counselor member, that anything less than complete information was not "better" information. We argued that to provide that much information was practically a guarantee that the prospectus would not be read. They countered by pointing out to us that even though it might not be read by everyone, it was nonetheless there for everyone to read. In general, we followed this advice throughout the development of our prospectus.

The committee also recommended that we publish a periodic newsletter to inform the college staff of what we were doing. We did so and received nothing but very positive feedback. (see Appendix B)

During the course of prospectus building, our committee made many other suggestions and recommendations. One of the most important- one that we really agonized over - had to do with format. Our original plan, as noted earlier, called for the entire prospectus to be under one cover. We had reasoned that all of the information needed by a prospective student should be in one place. The committee, however, recommended that it be divided into two or more parts. They felt that if the prospectus actually got as large as it appeared it might, prospective students would have difficulty reading it or would simply not read it at all. We accepted their recommendation and divided the prospectus into two parts, one called "Closing the Money Gap: A Financial Aid Information Packet," the other was called "Closing the Information Gap: A Program and Employment Information Prospectus."

One last word about our advisory committee: while we sought their advice, it was analyzed (as was all information) in terms of our objectives and used when and if we thought best. In the process of prospectus building, ultimately someone has to make the choice as to what is better information. We assumed this responsibility.

- Information Sources

In gathering information on financial aid, costs, vocational interest, occupational profiles, and the other areas covered in the two information packets of the prospectus, our initial and continuing concern had to do with reliability of the sources. We decided to use only information that met one or more of the following criteria:

- official data from authoritative sources
- data, not official, but traceable and verifiable
- data based on expert opinion and/or theory

Thus, in the case of employment projections, occupational information, and financial aid, we used data published by such agencies as the Michigan Department of Education, the United States and the Michigan Department of Labor, the College Scholarship Service, the Midwest Association of Financial Aid Administrators, etc. For program and cost information we relied on the college's Academic Bulletin and the Office of Research and Development. The section on vocational assessment was adapted from the presentation in Direction--Michigan Career Opportunity Guide, which in turn was drawn from John Holland's Making Vocational Choices: A Theory of Careers (Englewood, N. J.: Prentice Hall, 1973).

PART III

CLOSING THE MONEY GAP

- **Financial Aid Information**

Perhaps one of the most difficult and time consuming portions of the prospectus to write was the information packet dealing with financial aid. We did an extensive review of the following:

- first, of other publications (both institutional and governmental/agency based) which attempt to explain financial aid and describe processes and sources of such aid. Included in this group would be the 1976-77 Michigan Admissions and Financial Assistance Handbook, handbooks published by and dealing with the various federal and state financial aid programs.
- second, from material published by the College Scholarship Service explaining the needs analysis system.
- third, from consultation with our financial aid officers to review their procedures and methods for awarding financial aid, how aid packages are developed and factors involved in adjustments to awards.
- fourth, by systematically analyzing actual awards made during the 1975-76 academic year to determine the degree of success in meeting student financial need and to secondarily develop profiles of aid recipients.
- fifth, we accumulated materials from newspapers, magazines, professional journals, and national task forces; reviewed publications such as Student Guide to Economic Survival; we talked with counselors and our advisory group, and with students to find out what they thought would be useful and essential information; and we utilized the taxonomy of information needs developed by Mary Kinnick of Portland State University.

- sixth, we reviewed proposed and actual state and national legislation for their bearing on the kinds of information that might be and currently were required of colleges and universities by congressional edict.
- seventh, two sources greatly influenced not only the content but also the tenor and nuance of this portion of the prospectus and, incidentally, reinforced our conviction about the kinds and the range of information about financial aid that should be included--the "Report of the National Task Force on Student Aid Problems (commonly known as the Keppel Commission Report) and "Unmet Needs--the Report of the CSS Student Committee on Student Financial Aid Problems."
- and, finally, information generated by the Better Information for Student Choice Project of the College Scholarship Service for National Project I was very useful to our own prospectus project. In particular, suggestions and criticisms offered by members of this advisory committee proved to be invaluable to us during the writing of Closing the Money Gap. . ., and special use was made of the CSS survey of information needs of MCCC students. (A summary of this survey is included in Appendix A of the present report.)

This research and analysis occupied the better part of our efforts for many months, during which time we found it necessary to not only immerse ourselves in the college's financial aid system, but also in the larger, national system of financial assistance for postsecondary education. As our prospectus developed we found it increasingly important to return to and measure our "product" in relation to the goals of student aid programs as we understood them: to encourage equal educational opportunity--access, choice, and retention; to increase the flow of students within the educational marketplace; and to preserve the diversity of postsecondary education. It was our premise that if we could encourage the first goal of equal educational opportunity, more than likely the others would follow.

- Closing the Money Gap: Part I

Access, then, was a primary consideration. Many investigators have reported that a considerably large percentage of needy students who would qualify for aid fail to apply and that many students who need aid apply too late to receive timely decisions on their applications. Because access to higher education is contingent upon financial considerations and also involves knowing how and where to get assistance if it is needed, one of the major goals of our project was the development of a step-by-step description of how to apply for financial assistance at MCCC. We wanted to summarize that information we knew to be essential if the student was to apply for financial aid in a timely fashion. The result was a fold-out, which if followed would guarantee the student priority consideration for aid administered by the college. We not only included deadline dates for filing but also suggestions as to when the student should start compiling information and investigating likely sources of assistance. We also provided the same kind of information (filing dates, necessary applications, addresses, etc.) for all other aid programs a prospective Macomb student should consider--that is, BEOG, State of Michigan Competitive Scholarship Program, etc. And we produced a separate piece, which we called "Financial Aid Calendar," to reiterate the importance of deadlines and planning. In this way students, we felt, would apply for financial aid on a timely basis with complete and correct applications. Financial aid programs at the college would be more easily and efficiently administered as applications would be complete and on schedule. All of this would then serve the end of promoting equal access to the college.

● Problems. . . While this process may seem straightforward enough, it was not without problems. We ran across the first of these in procedural differences for administering financial assistance programs between the college's two campuses. While in many respects Macomb County Community College is administratively a single unit, certain duplication of services exists on each of the two campuses--there are two admissions offices, two deans of student services, two placement and counseling offices. . . and two financial aid offices. While conceptually this may be acceptable, we found to our dismay that there were certain bothersome (and seemingly needless) differences between the two campuses in the administration of the aid programs. One campus, for example, had set May 1 as a deadline for financial aid applications, while the other had set June 1. These and a few other fairly minor differences were easily resolved as the result of several meetings with the financial aid officers from both campuses. However, as we went along, we did keep running into other similar kinds of stumbling blocks. More on these later.

Our fold-out, we felt, was still not complete. We were concerned that too many students look only at the "price tag" of institutions and are discouraged from applying to an otherwise appropriate school on the basis of the gross price. It is, of course, a basic tenet of student aid programs that financial aid will help pay the difference between what the student can afford to pay and what it will actually cost to go to college--any college. This concept of net cost presumes that ability to pay is a constant, but it is a concept that many prospective students simply do not understand, and many colleges and universities are reluctant to tell their own prospective students this basic fact. The CSS survey in which Macomb County Community College students participated showed that while many students wanted to or might attend private or more costly institutions if given the opportunity, they perceived them as too expensive and decided to "trade-off" in favor of the assumed lower costs of the public community college. Our own institution did question the expediency of making this kind of direct statement about the net costs because there was some feeling that we might be indirectly encouraging students to consider other postsecondary options. To its credit, however, approval was given to go ahead and publish the statement.

A related benefit, we felt, was that students would be able to compare the relative value of offers of financial aid. For example, a $3,500 aid package from an institution whose estimated budget is $4,000 would be seen as similar to an offer of $1,900 from MCCC whose budget is $2,400--the student's contribution at both institutions would be $500.

- Closing the Money Gap: Part II

Since financial aid has evolved to such a very complex and technical level with an attendant set of official statements and language all of its own, too often not comprehensible to the lay person, we felt it incumbant on us to describe its hows, whys, and wherefores in plain and direct prose. We adapted these official statements, definitions, explanations and descriptions, including recipient profiles and "packaging" guidelines, into a second booklet, "Everything you Always

Wanted to Know about Financial Aid."

● Problems. . .

But this may belie the difficulty we encountered in trying to communicate in our prospectus a basic understanding of financial aid information. This relates to the complexity of the financial aid system itself--multiple sources of funding, multiple selection and administrative processes, multiple program goals and clientele, different and extremely technical methodologies of need assessment, etc. As one of the participants in the CSS project commented:

> ". . .in the nature of things, one needs to make generalizations (all aid is based on need, your package will meet your need, etc.) but almost every generalization in this field turns out to need an asterisk. Without generalization, one reaches no conclusions; without qualifying statements, one misleads . . ."

And a related obstacle we faced was: How would we define in [illegible] and direct prose technical concepts and terms that defy simple and direct language? We spent a great deal of time resolving these kinds of difficulties and, for example, made every attempt to define concepts within the narrative portion of the booklet rather than refer the reader to a glossary of terms. We still aren't sure whether or not our efforts were successful, but initial reactions of students and others to the information packet have been very favorable and encouraging.

In this second booklet we conceptually led the reader through the philosophical and practical underpinnings of the financial aid system, and an indication of the scope of information dealt with is apparent from the table of contents:

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However, where information of this type dealt with specific policies of the college--student expense budgets and packaging guidelines, for example-- we again ran into serious problems. What we found was that the information simply did not exist, or that it did not exist in a communicable form.

Let's look at the question of how aid is awarded or packaged at Macomb County Community College. We agreed that students might highly value information that would explain to them the kind and types of financial assistance they would receive at different levels of need. What we found when we requested written guidelines describing the packaging of grant, loan, and employment assistance was that no such written guidelines existed!

As a result, it was necessary for us to commit staff to a full-time review (it took five weeks!) of all financial aid files so that profiles might be developed and packaging analyzed. Although we were able to discern a posteriori some semblance of logical guidelines and procedures for one of our campuses, it turned out that the other campus had awarded aid on the basis of intuitive judgment and a subjective, cursory review of student financial aid applications. Fortunately, the project director, in his capacity as dean and with responsibility for the area of financial aid, was able to encourage the development of specific guidelines for the packaging of financial assistance, and it was then possible for us to publish this specific information in our prospectus. Additionally, steps have been taken to improve recordkeeping, data collection and other management aspects of the financial aid unit.

Illustrative of another, related problem was the fact that data collection methods and recordkeeping procedures, when combined with the absence of definitive policy, meant that our desire to publish information describing how aid had been awarded in the previous year in relation to student need--in other words, the college's success at meeting student financial need--was to be thwarted. We were unable to generate profiles for one of our campuses and were forced, as a result, to publish what we considered to be less than complete information

Finally, we might note that we also encountered disagreement and sometimes resistance on the part of our professional financial aid staff in regard to the advisability of disclosing in a document destined for the student information dealing with internal policies and procedures. There was some concern, as well, that the college's resources were insufficient--both in terms of staff and available funds--to handle either an increase in student demonstrated need or applications load. We opted for the inclusion of all relevant information. We could do no less given our basic premise that financial aid has one of its goals the encouragement of equal access to higher education. It logically follows that prospective students should be provided with all information relevant to their choice of educational institution and, secondarily, that they not be actively or indirectly discouraged from applying for financial assistance simply because a particular institution has not corrected dificiencies in its administration of student aid programs.

- Closing the Money Gap: Part III

The content of the third booklet, "Financial Aid Programs," was a logical outgrowth of our desire to avoid cursory and incomplete definitions and explanations. Simply due to the volume of information already included in "Everything You Always Wanted to Know. . .," we decided that it would be reasonable to produce another booklet in which we could analyze each financial aid program in terms of:

- name, funding source, and funding level at Macomb County Community College
- the purpose of the program
- specific eligibility requirements
- special repayment provisions and requirements (particularly in the case of loans)

- where to apply or get information

Again, as with other information, we opted to completely outline specific characteristics of the sixteen financial aid programs which were included in the booklet.

Something Unique

One last unique aspect of our financial aid prospectus deserves comment. In our investigations, we learned first hand the problems of information, misinformation, and communication which virtually all prospective postsecondary students must face. The sheer variety of sources dealing with pertinent information is staggering. Not only must a student file an application with the institution (or institutions!) of his/her choice, but there are complicated forms to be filed with some external agency such as ACT or CSS, state scholarship and grant applications, supplementary documentation of sources of income and/or dependency status, and an application for the BEOG program. And there are still other sources of information (misinformation?)--counselors, magazines, books, television, parents, other college students, and so on. It is no wonder that many students are discouraged from applying.

While we could not immediately reduce this number of documents and forms, we could provide most of them in one place. Our financial aid information packet was just that: an envelope in which we included in addition to our various booklets:

- MCCC application for admission
- MCCC application for financial aid

- the College Scholarship Service's Financial Aid Form*
- a copy of the CSS booklet, "Meeting College Costs" so that students would have an immediate method for estimating their ability to pay
- a BEOG application
- we also specifically told them what other forms (Federal Income Tax Form 1040, for example) they would have to file
- and we made provision for the inclusion of related explanatory brochures and booklets

Thus, we hoped that such centralization of information might reduce the possibility of a student receiving insufficient or misinformation.

• A "Minor" Problem Resolved

Very early in our investigations it became apparent that one vital 'tool' was missing for a large portion of prospective MCCC students--a method by which the financially independent student might estimate his/her expected contribution to college expenses. For a number of years the College Scholarship Service has provided dependent students and their parents with a short booklet, "Meeting College Costs," to enable them to estimate expected family contribution. However, no provision was made for the student financially independent of his/her parents. At our urging such a form was developed by CSS, and we are confident that its inclusion in the "Meeting College Costs" booklet will further help to close the information "gap" students confront in their dealings with the financial aid system.

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*The decision to utilize the FAF rather than the PCS and SFS was deliberate and based on our desire to accept the recommendation of the National Task Force on Financial Aid Problems that all post-secondary institutions move toward the adoption of a common form.

PART IV

CLOSING THE INFORMATION GAP

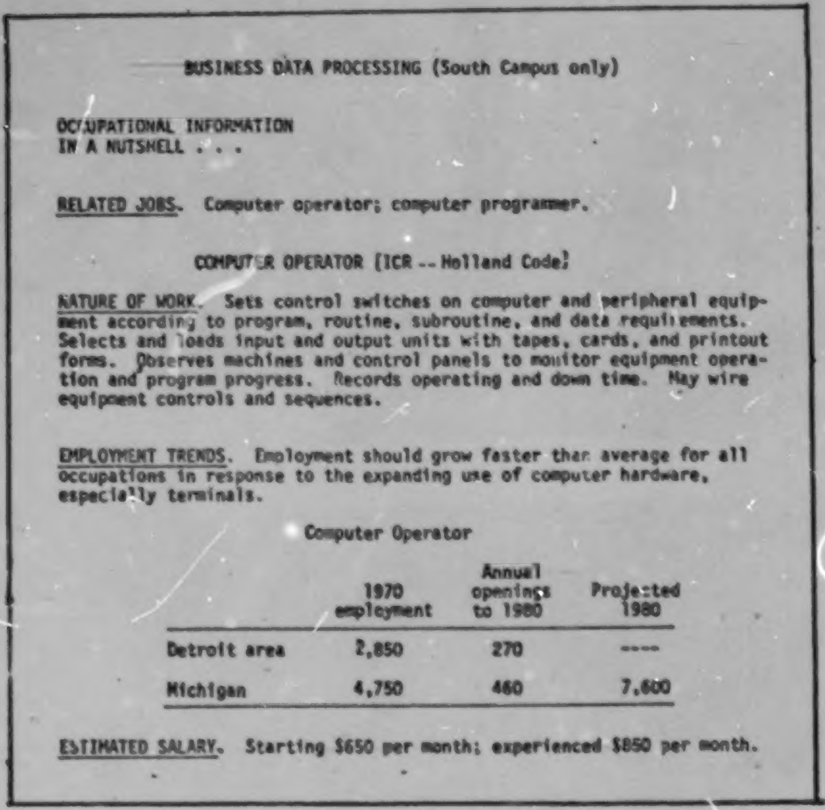
MATCHING INTERESTS AND ABILITIES TO CAREER AREAS

- Self-assessment

We decided that a section on vocational self-assessment was vital to the prospectus if students were to make better sense out of the many opportunities available to them and if they were to make better and more economical matches (both emotionally and financially) between themselves, postsecondary training and educational alternatives, and the world of work. We described interest and aptitude testing in general and also some of the factors involved in choosing a satisfactory career.

- Interests

We included a textual description of the Holland model of vocational interests so that any prospective student might have the opportunity to gain a tentative and initial understanding of his or her interest patterns. With this knowledge, a given set of interest patterns (we called them Holland Codes) could be compared to the patterns we had associated with the various jobs, local employment trends, and instructional programs contained in our prospectus as the sample below illustrates. In addition, the prospective student could check occupational choices against national trends since we included in the prospectus a chart from the Bureau of Labor Statistics showing the projected percentage of increase/decrease in employment by occupation through 1985.



BUSINESS DATA PROCESSING (South Campus only)

OCCUPATIONAL INFORMATION
IN A NUTSHELL . . .

RELATED JOBS. Computer operator; computer programmer.

COMPUTER OPERATOR (ICR -- Holland Code)

NATURE OF WORK. Sets control switches on computer and peripheral equipment according to program, routine, subroutine, and data requirements. Selects and loads input and output units with tapes, cards, and printout forms. Observes machines and control panels to monitor equipment operation and program progress. Records operating and down time. May wire equipment controls and sequences.

EMPLOYMENT TRENDS. Employment should grow faster than average for all occupations in response to the expanding use of computer hardware, especially terminals.

Computer Operator

	1970 employment	Annual openings to 1980	Projected 1980
Detroit area	2,850	270	----
Michigan	4,750	460	7,600

ESTIMATED SALARY. Starting $650 per month; experienced $850 per month.

VOCATIONAL/PROGRAM INFORMATION

- Overview

The intended centerpiece of Closing the Information Gap. . . was to be the section entitled "Programs: Macomb County Community College." Here we brought together:

- occupational information (nature of work, employment trends, and estimated salary) for jobs that we identified for each of the college's occupational programs. Each job was in turn coded with its respective Holland Code.
- a summary of program requirements and estimated program costs, and
- concluded each program analysis with a summary of graduate employment experiences (# of unemployed, job education related or unrelated and range of and median salaries, etc.)

This synthesis of what we came to consider interrelated information demonstrates our desire to remedy the often disjointed approach to career and educational planning that confronts too many students. Training--and sometimes educational--programs imply jobs; careers imply more than educational programs. We decided to place joint emphasis on both education and occupations.

OCCUPATIONAL INFORMATION

- Job/Nature of Work

A certain degree of risk was taken in associating a primary job (or jobs) with each career program simply because such an approach does not always take into account the flexibility of individuals--there are many routes to many occupations. It might also imply a causual link between a particular program and a particular job even though that link may be tenuous. Still, the coding or matching of jobs to programs was often straightforward: the medical laboratory technician program should train medical laboratory technicians; aviation mechanics technology trains aviation mechanics. However, others were more difficult: does the accounting program always train accountants? (We found that most accountants hold bachelor's degrees and that the accounting program may, in fact, primarily train bookkeepers.) And for what job does the general business program train students? Or liberal arts/non-science? Sometimes we were unable to conveniently code jobs to programs. We did include a table, borrowed from Direction, in which are listed some of the occupational alternatives for liberal arts majors. And rather than fabricate a job description for a program like industrial labor studies, we indicated that such information was not available to us and hoped that its consipicuous absence might prompt the student (or advisor) reader to seek further guidance and information.

The descriptions of nature of work, the employment trends, and estimated salary figures were drawn and adapted from the following sources:

- Direction--Michigan Career Opportunity Guide;
- Occupational Outlook Handbook, 1976-77 Edition;
- Occupational Outlook Quarterly, Spring 1976;
- Dictionary of Occupational Titles, Volume I;
- Michigan Job Briefs, published by the Michigan Employment Security Commission (MESC);
- Michigan Occupational Outlook 1980;
- industry and professional career publications; and
- publications of the Southeastern Michigan League of Community Colleges Regional Placement Office*

- Wages and Employment Trends

One of the primary goals of the project was to improve the kinds of information prospective students receive so that they might better plan their future. Of paramount importance for this information scheme, in our estimation, was accurate and current data on wages and employment trends. However, as we became more and more conversant with data, it became apparent that there would be problems.

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* Macomb County Community College is a member of the Southeastern Michigan League of Community Colleges. The SEMLCC Regional Placement Center coordinates the job placement efforts of member colleges, providing among other services, a computerized Employment Information System (EIS) which generates information concerning its educator and employer constituents. Each year the center, in conjunction with member colleges, publishes a follow-up report and analysis of one and two-year community college graduates.

- Problems . . .

From the outset we had anticipated that updated and current data concerning wages and job trends would be available to us. It was our understanding that Direction would be republished in the early fall of 1976 with updated information for both of these areas and with enough lead-time to permit us use of their figures.* Delays in the compilation of employment data by the state, however, delayed publication of Direction and forced us to use the original 1974 wage figures with only a minimal degree of updating and only where we had access to more current estimates. The employment projections we used were somewhat more recent. We adapted a prose description of trends by occupation from the Occupational Outlook Quarterly to give the student an overview of the national scene, and we added data for the Detroit area and state of Michigan published by the Michigan Employment Security Commission. These latter were arrayed in a modified tabular format. An example of the format used follows below.

EMPLOYMENT TRENDS. Employment expected to grow faster than average for all occupations in response to increasing use of assistants by dentists. Excellent opportunities, especially for graduates of approved programs. Favorable outlook for part-time work.

	1970 employment	Annual openings to 1980	Projected 1980
Detroit area	2,400	390	----
Michigan	4,300	620	6,300

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*The data referred to here was to be supplied by the Department of Education's recently created Michigan Occupational Information System (MOIS). After several months of delay, MOIS, a microfiche information system, is now in operation throughout the state and promises users

However, we had several misgivings about both estimated wages and employment projections. Federal wage and employment data are based on national averages and are not always necessarily accurate for a state whose economy is as heavily dependent upon a single industry or so highly unionized as is Michigan. And very often, even though two jobs may have the same name, duties will vary considerably from employer to employer and consequently so too will salaries. Moreover, these figures suffer one distortion because of the time-lag from computation to printing. Yet another distortion occurs because of the fact that occupational training decisions are made two or more years before the person contemplating such training finally enters the labor market. Still, while there appeared to be many pitfalls to our publishing such information, we felt that after taking into account and reporting our misgivings (more later on how we reported "caveats") to the student, these were the best general data available and that it was preferable to print these rather than none at all. So we updated where we could using the federal figures, and, wherever possible, specific and more recent data from the State of Michigan.

- Employment Projections

There was, however, another area of serious concern to us. It had to do with our disillusionment with employment projections provided by the Bureau of Labor Statistics. Perhaps we can sum up our misgivings about such projections by listing the five major assumptions made by the Bureau in the compilation of this data:

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improved access to current, accurate, and valid occupational and educational information. We support these goals (Macomb County Community College now has access to the system) and feel that Closing the Information Gap provides an appropriate printed supplement to MOIS for MCCC students.

> Assumptions. The Bureau's projections to 1985 are based on the following general assumptions:
>
> - The institutional framework of the U. S. economy will not change radically.
> - Current social, technological, and scientific trends will continue, including values placed on work, education, income, and leisure.
> - The economy will gradually recover from the high unemployment levels of the mid-1970's and reach full employment (defined as 4 percent unemployment) in the mid-1980's.
> - No major event such as widespread or long-lasting energy shortages or war will significantly alter the rate of economic growth.
> - Trends in the occupational structure of industries will not be altered radically by changes in relative wages, technological changes, or other factors.

Perhaps our general disillusionment also derives from the fact that the last set of projections, published in 1974 at the height of the recent recession, included as one of the underlying assumptions upon which they were made that "employment and labor utilization will be at high levels." Perhaps our misgivings include seeing political overtones in the choice of assumptions; and perhaps we wonder if any of them have not been violated in the recent past in some however minor yet significant way.

Still, these seem to be the best general data available, and it does appear that long-term projections may be less susceptible to sudden or abrupt variation.* Indeed, fully two-thirds of the projected

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*The authors of Direction make much the same point:

". . . at the very time we began researching the various sources, federal and state, for an assessment of job trends, the bottom fell out of the automobile market and no one, least of all the MESC openings for all occupations will generally result from attrition rather than growth, another levening influence on their reliability.

We opted, in the end, for the inclusion of employment projections because of our conviction that such information is important and because of our commitment to include information essential to career planning. To be sure, we wrote some "caveats" for the prospective student, especially recommending that employment trends be researched before training begins and with much care while the student is in training. If changes then do occur, the student will be in a position to anticipate the necessary adjustments to remain maximally employable.

ESTIMATED PROGRAM COSTS

It was apparent from the several surveys available to us that students highly valued accurate and complete cost information. This was especially true of Macomb County Community College students responding to the CSS questionnaire. Hence, we decided to generate program cost estimates that would include all direct costs the student might conceivably incur--tuition, fees, required and recommended texts, and any special equipment or supplies necessary for the particular course or program.

- Problems. . .

We turned this task over to our Office of Research and Development which,

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[Michigan Employment Security Commission], seemed prepared for it! The week we read the MESC projections for the last quarter of 1974, in which the claim was that there would be a strong surge in the auto market and in auto production, Chrysler laid off 50,000 workers and General Motors furloughed an additional 20,000. So much for the short-term accuracy of job trend predictions."

in turn, developed procedures for securing the needed information. As in the case of the analysis done of the financial aid program, it was necessary to commit several staff full-time to the task. They carried out a laborious course by course review of bookstore inventories and lists and when their initial survey was complete, the cost sheets were sent to each academic division for review for accuracy and to fill in the many gaps that had turned up.

A veritable plethora of problems surfaced during the course of this research. We found for instance, that our two bookstores often charged different prices for the same books, or, more frequently than we would have liked, they did not have lists of required texts for all courses offered by the college; that sometimes this was due to the fact that certain courses listed in the catalogue had last been offered several years ago; and we discovered previously unknown differences in the costs of what we had assumed to be identical degree programs offered on each of our two campuses.

These kinds of inconsistencies and gaps forced us, in the case of many courses, to publish a minimum, incomplete estimate--the total of tuition and fees, or, what was somewhat better from our point of view, tuition and fees and the cost of most of the books a student might have to purchase. It also meant that we had to publish two estimates for what amounted to the same certificate or degree program offered on our two campuses (Executive Secretarial and Accounting, for example). We, thus, left it up to the student to make comparisons between programs. Similarly, it was impossible for us to estimate the cost of general electives or other courses outside of the required core curriculum that an individual student might conceivably take. We, therefore, included a complete index of courses and their known costs along with a worksheet that the interested student might then use to estimate the cost of her/his particular program.

We might add, as a final note, that the institutional offices in charge of instruction were made aware of these discrepencies and differences, and indications are that steps will be taken to standardize such things as bookstore prices, fees, general degree requirements, etc.

FORGONE INCOME

- The issue . . . Earlier, we mentioned that our advisory committee had argued against the inclusion of the topic of forgone income in the prospectus. While we shared their feeling that most students would simply not find the concept important to them, we weren't certain that this, in and of itself, was good enough reason to not treat the subject. Our research did show us that at least among economists there was concurrence that forgone income not only is a legitimate concept but constitutes one of the major costs of education. Virtually all estimates of the rate of return on investment in education include some calculation of forgone income. However, in one respect we did concur with our committee--that the calculation of this factor cost is just too complicated to be understood by most prospective students. The formulas are cumbersome, conceptually difficult and often include two or more factor regressions. In the end, we opted for a simplified--and, we hoped, accurate--formula that might get some students to think about other than "out-of-pocket" costs. Again, we felt that our responsibility to the student required that we include all information pertinent to their choice in postsecondary education, and, while conceptually difficult, forgone income certainly should be a major consideration, especially for those students in-between jobs or contemplating a change of career.

GRADUATE EMPLOYMENT INFORMATION

- Outcomes of Training

Since training decisions are not made in a vacuum, and since a student's choice of institutions or training program should take into account the possible outcomes s/he might reasonably expect from such training, we felt that another set of data was needed to complete the occupational data associated with each career program, we included a brief summary of graduate employment information gathered from a follow-up study of MCCC students who graduated during the period 1974-75. We were fortunate to have this kind of follow-up data available to us in the form of a statistical report published by the Southeastern Michigan League of Community Colleges Regional Placement Center in conjunction with our own placement offices at Macomb.

- Problems . . .

These data were not, however, without interpretive problems of their own. The most serious of these, in our estimation, dealt with the incompleteness of the available data. For example, we know that only about 10% of our students complete a degree or certificate. We assume that many do not because they have achieved some other short-range goals--skills acquisition, job upgrading, transfer to a four-year institution, etc.--and the diploma or certificate simply is not important to them. Therefore, the sample that is surveyed each year by our placement office may be atypical and certainly small when compared to the total student enrollment.

Another deficiency surfaced in the reported salaries: no provision was made in the original survey instrument to distinguish entry-level from already held jobs, and the misleading implication, in our view, was that these were new or first jobs. Yet, it was obvious to us from looking at job titles and salaries that many of these people had actually been employed for some time.

Finally, no distinction was made between certificate and associate degree holders. Since there is a considerable difference, at least in cost and time, between the two graduation alternatives, this posed another problem to us in reporting the data.

We chose, in the end, to display a summary of the original graduate employment report. (An example of the format used in the prospectus follows below.) Although incomplete, this was the best data available and even with these problems was probably sufficiently accurate. We did write the necessary "caveats" so that the student might be aware of the problems and were fortunate to be able to influence changes in the questionnaire that will be used in subsequent surveys of MCCC graduates.

1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Business Data Processing

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
45	36	31	1	4	$200-1800	$1075

23 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$600-1800	$1100

8 Grads Report Working Full-Time/Unrelated Field	
Earning Range	Median Salary
$200-1250	$925

- Caveats . . .

We began the section relating occupational and program information with a large introduction entitled "Before you go any further . . . ." In this sub-section to our centerpiece we tried to give the prospective reader an overview of the kinds of information that followed, an understanding of the sources we had used, and, most importantly, a feeling for the limitations of the data. We came to believe that, given the very real problems we ourselves were forced to grapple with, it was only fair and right to sum up these "caveats" (we called them Grains of Salt in the prospectus) for the student who would subsequently read and use the prospectus. And it seemed to us that this kind of information was as important a tool for that prospective student--how to use the data, sources for more complete information, danger signals, and the very real limitations of the data, etc.--as were the linkages we had been making between vocational self-assessment, occupations and programs.

- A last word . . . We did not include in our prospectus information on students who transfer to four-year institutions or students who stop attending. Although we believe that such information is important to prospective students, we found that the available data was either out-of-date or incomplete. To have published it, therefore, would have violated the norms of better information as we interpreted them. Presently, our Office of Research and Development is surveying these two groups, and we anticipate that the resulting new information will be available either in a future prospectus or other appropriate college publication.

PART V

WHY DOES THE PROSPECTUS LOOK THE WAY IT DOES?

- Format

It might be well at this point to review and explain why we decided to go with the particular format that we did and some of the things we considered before we sat down with our graphic artist. We did not want to eliminate any information that had been identified as highly important by students, but, at the same time, we were concerned that, perhaps, there was too much material to publish under one cover. Doing so, we feared, might guarantee that a student would not read it. At the same time, it became increasingly apparent that the topic of financial aid--as we wanted to treat it--did not fit in with the vocational/program information we were developing. The continuity between the topic areas simply wasn't there. So we made an early and tentative decision to ultimately produce at least two "pieces" or parts--one dealing with financial aid--Closing the Money Gap: A Financial Aid Information Packet and the other dealing with the remaining parts of our outline--Closing the Information Gap: A Program and Employment Information Prospectus.

- Financial Aid Information

While a certain logical structure developed during the compiling of information about financial aid and while we began to see the bare outline of a possible format, it wasn't until after we had completed a rough draft (the third or fourth of many) of the financial aid prospectus that the pieces began to fall into place. It was at this point in the project that we read a short analysis and summary of a concept called the "communication cycle."* In essence it said that for information to create its ideal intended effect, it must meet these criteria:

- It should be factual in every detail.
- It should contain and describe the correct sequence of events.
- It should be identified with a specific time period.
- It should contain no falsehoods.
- It should have the importance of its contents in their proper order of significance.

Eureka! We now had a logical framework by which to measure our communication effort and rationalize the format we would ultimately use.

For example, without analyzing our entire financial aid information packet in terms of the above five criteria, let's look at it in relation to the second and fifth items. Early in the project we had identified three major areas that should be dealt with in this section of the prospectus--complete information on the processes of financial aid, detailed information on the various student financial aid programs, and practical information on how to get financial aid. Thus, we followed the dictates of item two by including and describing the correct sequence of events that a student had to follow, and to clearly distinguish between the three areas and order them based on their priority (or significance), we chose to produce three separate pieces and numbered them Part I, Part II, and Part III. This also seemed logical given the nature of the material. In this way, we felt, not only would it not seem so overwhelming, but, also, no student would be denied access to complete information while still being free to choose a personally appropriate entry point to that information.

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* From an unpublished draft manuscript entitled, Communication: Did You Get The Word?, Jerry S. Davis, April 1, 1976.

- Vocational/Program Information

As for the vocational/program section of the prospectus, Closing the Information Gap . . ., we opted to produce it in a tabloid format. In the first place, the college has had positive feedback from the community and good experience with such a format for communicating information. Also, it seemed to make the final "product" less bulky in appearance and seemed to provide us with a relatively inexpensive to print and subsequently update format. The decisions were made. We talked with out graphic artist about the idea, and she agreed that going to tabloid size would also help us to include more "white space", make periodic breaks in lengthy text, graphically highlight different topics and sections, etc. But while we were finishing up some of the loose ends and doing final proofreading, yet another stumbling block surfaced. At this point we were notified that the college had intentions of making significant increases in tuition and fees. Because our prospectus was based in large part on accurate cost information, which we defined as the total of tuition, fees, books, and supplies, we opted for a quite different format and printed only enough copies to meet the immediate needs of the project: first, we had a contractual agreement to send copies of our finished prospectus to FIPSE; second, we already had numerous requests for copies from other institutions, individuals, and people on our own staff; third and most importantly, we didn't want to print information and make it available to students knowing it was wrong. Our plans are to update program cost information just as soon as the college has taken action on the several proposals being considered and then subsequently produce the tabloid prospectus of vocational and program information for Macomb County Community College.

- Finally . . . Our prospectus was not meant to replace the college's Academic Bulletin, but rather to provide certain kinds of new and better information. As such it would supplement or enhance or amplify the Bulletin as well as other college publications.

Although there are no final plans as to how the new and better information will ultimately be used, several suggestions have been made including the following:

- Continue to publish a prospectus as a supplement to the Academic Bulletin.
- Publish various parts of the prospectus in place of the brochures and information booklets now being published.
- Add the new information from the prospectus to the Academic Bulletin.
- Add certain information--retention rates, transfer rates, academic policies, etc.--to the prospectus and publish it as a prospective student guidebook or handbook.

PART VI

CONCLUSIONS AND RECOMMENDATIONS

- Objectives accomplished?

At the outset we conceived the objectives of our prospectus to be:

- To provide prospective students with better information which would assist them to make more informed decisions about training and jobs, the pursuit of postsecondary education in general, and attendance at Macomb County Community College in particular.
- To provide prospective students with information not previously available dealing with some of the conditions and outcomes of attendance at Macomb County Community College.

Does the prospectus provide better information? We are confident that it does. To illustrate, in Appendices C and D we have included copies of the financial aid information and an example of the typical instructional program information as found in the college's current Academic Bulletin. We feel our confidence is justified when this material is compared to that contained in Closing the Money Gap and Closing the Information Gap. But the final answer as to whether or not we have indeed produced better information lies with prospective students choosing among alternatives in postsecondary education. We are attempting to get some sense of that "final answer" through an evaluation of the prospectus by currently enrolled MCCC students, high school students, parents, high school counselors, and college staff. Although the final results of the evaluation will not be available for about sixty days, preliminary feedback suggests that the prospectus does contain better information. Especially positive responses have been recieved on the financial aid information packet.

Related to the question of "better" information is that of legally required information disclosure. While we don't want to make a judgement here on the desireability of federally imposed directives to remedy certain information deficiencies or abuses, we note that the Education Amendments of 1976 will require that postsecondary institutions participating in federally funded student financial aid programs disclose certain information to students. (see Appendix E) Thus, the question of whether or not this is "better" information may have been rendered academic. Although we have not as yet seen specific guidelines from the Office of Education, it would appear that this is, by and large, information we have included in Closing the Money Gap and Closing the Information Gap.

Will prospective students using the prospectus be able to make more informed decisions about training, jobs, and postsecondary education? Again, the answer lies outside this report. However, compared to what is usually given to prospective students, the prospectus contains more of the information tools needed to make informed decisions about training and employment, especially for a person considering Macomb County Community College.

Does the prospectus provide new information about some of the conditions and outcomes of attendance at Macomb County Community College? Unquestionably, the answer is "yes." Detailed cost information, graduate employment data, and detailed financial aid information has never been previously available. Additionally, degree programs on each campus supposedly "identical" have never been arrayed in such a way as to permit students to easily see the differences (e.g., in number of credit hours and in costs).

In summary, it seems possible to say at this point and assuming evaluation results continue to be positive, that the prospectus did meet its primary objectives.

- **Other Outcomes**

Developing our prospectus had some unpredictable and what will prove to be far reaching effects on the college.

- The college is much more conscious of the kind of information it provides prospective students. There is greater concern about whether or not information is truthful and complete. Some examples will illustrate this point: Copy for a brochure describing one of the college's occupational programs was rejected because the glowing employment claims were not verifiable. Procedures previously not made available to students because of the possibility of abuse, are being put into the Academic Bulletin. The format of the Bulletin itself has been revised in order to present information most needed by students first.
- Several major curriculum problems related to degree requirements were discovered during the development of the prospectus. Partly as a result of those discoveries, a major revision of degree and certificate requirements is now underway.
- As a direct result of the prospectus building process the entire financial aid system is being revised.

- **Time Investment**

Planning, developing and producing a prospectus such as ours, will require a considerable investment of time depending on the availability and accessibility of needed information. In our case, much of the information we felt was needed was either not available or not easily accessible or not available in a usable form. This meant that a significant amount of time was spent (mostly "by hand") researching, extricating and organizing data. The best estimate of the number of "person-hours" needed to produce our prospectus is as follows:

• Professional	--	2,750 hours
• Clerical	--	1,200 hours
• Advisory (not including the Advisory Committee)	--	350 hours
	TOTAL	4,300 hours

Lest future prospectus builders become discouraged looking at the time investment, some points should be kept in mind:

- If necessary information is easily available and usable, fewer hours will be needed to gather and sort it.
- First efforts are very time consuming because mistakes are made and false leads are followed. The second time-around should require fewer hours.
- Knowing in advance with some certitude the information needs of students will reduce the number of hours needed to evaluate and analyze data.

Related to the investment of time is the investment in dollars. Although we will probably never know exactly the cost of producting our prospectus, a good estimate is between $35,000 and $40,000. The cost of "person-hours" alone was approximately $27,000.

• The Future

Given the time and dollar investment, will Macomb County Community College continue its efforts at prospectus building? The answer so far is "yes." But it seems unrealistic to believe that the college will "line item" $35,000 to $40,000 annually for this kind of effort. It is realistic to believe, however, that the cost of a future prospectus will not be as great and (this is most important) the consciousness of the college will have been raised to such a point that the money spent on traditional (even bad) information will be re-channelled into better information.

Worth noting at this point is the fact that plans have been made to update and to continue gathering information. We anticipated that the Office of Research and Development will continue to gather and analyze course and program cost information. The Financial Aid Office will annually revise financial aid information. Information on graduate employment data will continue to be gathered each year and will probably be added to future editions of the Academic Bulletin. Occupational information and employment projections will be revised regularly by the Counseling/Placement Division. Brochures describing the college's educational programs will contain graduate employment information and occupational trends.

- Leadership

All in all the thrust for better information at Macomb County Community College looks very good. For the present those who had the most to do with the development of better information will need to continue providing leadership. But the number of adherents is growing and new leadership is emerging. We hopefully anticipate that before long the need for better information in all of the corners of the college will become as important as the need for the class schedule.

- Dissemination

Our plans called for the printing of 3,000 copies of the prospectus. About 800 copies will be used for evaluation, distribution to high school counselors and college staff, FIPSE, the Chairman of the National Task Force, and officials of the state of Michigan who have requested copies. The remaining 2,200 will be made available to prospective students.

Up to now we have received requests for information or copies of our prospectus from well over 200 individuals, institutions and agencies. In addition to local high school counselors and teachers and members of the college staff, we have had correspondence with, or are sending copies to the following:

- American College Testing Program
- Bowling Green State University
- Colorado State University
- Kalamazoo Valley Community College
- Michigan Association of Community College Student Personnel Administrators
- Michigan Community College Association
- Oakland Community College
- State of Michigan, Higher Education Assistance Authority
- State of Michigan, Higher Education Management Services
- State of Michigan, Senate Colleges and Universities Committee
- State of Michigan, State Department of Education, Coordinator of Community College Affairs
- University of Houston
- Detroit School District, U.S. District Court, Monitoring Commission (Sub-committee on Vocational and Career Education)

Other efforts at dissemination have included:

- Newsletter distributed to college staff (see Appendix B)
- Articles published in the campus newspaper. (see Appendix F)
- Presentation made to the college's board of trustees.
- Presentations made to various campus groups including student government.
- Panelist for "FOCUS", the annual meeting of Michigan community college deans of instruction.
- Presentation at a conference of local educators sponsored by the American College Testing Program.
- Participated in two sessions with state agency heads dealing with information as it relates to career education.

- **Recommendations**

Although the following recommendations are directed primarily to future prospectus builders, several will be applicable to policy makers, institutions and agencies who are concerned with better information for students. For the most part they are based upon the experience we gained from developing our own prospectus. Some, however, have been prompted by the opinions and experiences of others.

- Postsecondary educational institutions should regularly assess the information needs of prospective students.
- Information deemed to be important by prospective students should be published in a prospectus or similar document/documents.
- All information published for the use of prospective or enrolled students should be verifiable and complete.
- Any limitations, special conditions or distortions of information should be clearly and truthfully communicated.
- The sequence and/or format in which information is presented should be based upon the relative importance of the information to the prospective student. Thus, information determined to be highly important should be the most easily accessible or should be highlighted in such a way as to draw immediate attention to it.

- Technical language and academic jargon should be avoided or clearly defined in context.

- All requirements and options for degrees and/or certificates should be clearly and fully disclosed.

- Full and complete information on the cost of attendance should be provided. This information should include tuition, fees, books, supplies and any other costs associated with a particular course, class or program of study.

- The refund policy of the institution should be unambiguously defined and conspicuously displayed.

- Detailed information on financial aid should be provided. Such information should include at least the following:

    - All steps and forms necessary to be considered for financial aid.

    - Full description of all financial aid programs available including information on qualifications for the programs, special conditions, repayment responsibilities, etc.

    - "Packaging guidelines" used to award financial aid.

    - Accurate and complete student budgets used by the financial aid office to make awards.

    - An indication of how well financial need is met by the institution. This can be shown by a comparison of total need to total aid awarded.

    - Current profiles of financial aid recipients.

    - The student appeal process.

    - Names and locations of all persons who are involved in the awarding of financial aid.

- Postsecondary institutions purporting to train people for employment should provide information on the occupations for which specific training is meant as a preparation. In addition, long range trends or projections for these occupations should be provided along with the conditions or assumptions upon which the trends or projections are based.

  - Information on the experience of an institution's graduates should be provided. Such information should include, but not necessarily be limited to, employment/unemployment, employment in occupations related/unrelated to training, wages/salaries, numbers who transferred (e.g. in the case of community colleges), number admitted/not admitted to graduate schools.

- Information on student retention should be provided. However, the meaning, or limitations, or special conditions of such data should be clearly communicated.

- When information is provided that may be detrimental to a particular department in an institution, it is recommended that the affected department be given the opportunity to present its case if it wishes. However, any new information presented should be subject to the same tests of validity as all other information.

- In developing a prospectus, it is important to obtain the support and commitment to providing better information from the highest level of authority in the institution.

- The use of a broad-based advisory committee in prospectus development is recommended. However, the final decision as to what information is to be provided should not rest with the committee, but rather with a single individual or a small group of persons in authority who are committed to better information.

PART VII

NATIONAL PROJECT I

- National Project Format

In our opinion the national project format is an excellent method for focusing attention on vital issues of postsecondary education. Naturally, the issue or issues, the outcomes, and the effectiveness of their dissemination will ultimately determine the success or failure of a given project. But that method has much "going for it" in that it has the potential of bringing together people from different parts of the country who are concerned and committed to the issue or problem at hand, and who can contribute insight from different institutional and educational points of view.

- National Project I

National Project I in its focus and composition is a very good example of a potentially effective national project. It brought together people from diverse geographical areas, institutions, and educational/philosophical points of view to focus on a problem that they all felt important to the future of postsecondary education.

We feel that National Project I has had national impact and that it will continue to do so. This is not to say that the project could not have been more effective and thereby made a greater contribution to the problem of providing better information for student choice.

In hindsight we offer the following observations:

- We did not feel that the objectives of the project were clearly and precisely defined. This should have been done early, probably at the first meeting. For example, the major goal of the project, as we understood it, was to raise the level of consciousness of the need for better information. If the project's Task Force had set objectives related to such questions as--whose level of consciousness would be raised? how? with what strategies? etc.--its deliberations on occasion might have been more fruitful.

- Fund leadership* was always positive and constructive in its suggestions and recommendations and managed on many occasions to cause the Task Force to bring more focus to its deliberations.

- Project leadership should have been more assertive and task oriented. For example, no task force member should have left a meeting without a clearly defined assignment for the next meeting. To do this it would have been necessary to establish objectives or desired outcomes for each meeting. Leadership also seemed to run in streaks. A position paper, for example, would be assigned and then not used or circulated.

- Too much time was spent deliberating or trying to reach consensus. The Task Force did not seem to be "product" oriented except toward the end when the National Invitational Conference and the Report were discussed.

- The Task Force may have lost some of its impact because early in its life it failed to tell enough people regularly and often what it was doing. It was argued that this could not be done because there was not adequate "product." Assuming this to be true, it cannot be argued that there was a lack of issues. They began to emerge at the very first meeting. The Task Force could have said to people across the country: Here are some of the issues and problems related to better information. Here are some of the tasks we are working on. Here are some of our experiments with better information.

---

*Ray Lewis and Russ Edgerton

- Although the work of the project was not widely known across our institution, those who were aware of its efforts tended to be very supportive. It is clear to us the project has had some affect on raising the level of consciousness for better information at Macomb at least among those persons responsible for providing information to students.

- It appeared to us that Task Force members were not able, at least initially, to give as much attention as they might have liked to the work of the Task Force. For some the feeling that the Task Force lacked direction or ultimate purpose was a factor. While for others, work on individual projects seemed to have higher priority.

- We are generally opposed to outside intervention in the affairs of postsecondary institutions and their students. However, since the federal and state governments have felt it necessary to enter the arena of information disclosure in postsecondary education, we suggest that they carefully limit themselves to establishing guidelines for the types of information that should be disclosed. The experience of National Project I, if nothing else, serves to demonstrate that postsecondary institutions can commit themselves to providing better and more complete information; can produce better information; and that there are numerous problems (e.g. comparability of information, lack of common terminology, etc.) that won't be solved by simply legislating.

- Recommendations to FIPSE

  - Continue to use the national project method as a means of focusing on signigicant problems or issues in postsecondary education.

  - If future projects involve using demonstration institutions and resource agencies along the lines of National Project I, we would recommend that the Fund consider a staggered sequence to the starting of the various components and an extended overall period to a project's working life. Specifically,

    - Resource agencies should begin their work first, ideally a few months before

  - the demonstration institutions in order that they might benefit from preliminary research and experiences and that, finally
  - the total membership of the project begin its deliberations after the resource agencies and demonstration institutions are well into their work, continuing well beyond the completion of individual projects.

We feel that following such a format would provide a more logical organizational framework and better utilize the knowledge and expertise gained by the project's participants.

- Future national project directors should be appointed by the Fund. We do not recommend that they be selected on the basis of a competition.

- If a final report is required of a national project as in the case of National Project I, the writer or writers should be involved early in the life of the project.

- National projects should have clearly defined goals and objectives. They should be established early in the life of project and reviewed as new knowledge and experience is gained.

- National projects should seek as much visibility as possible and be assertive in communicating what they are doing and why they are doing it.

- The Fund should consider establishing mechanisms for keeping the issue or problem addressed by a project in the public view once the project has finished its work. In the case of National Project I, for example, the establishment of a better information clearinghouse would keep the issue of better information "up front," so to speak, but would also provide a vehicle for showing better information efforts.

- The Fund should continue its leadership role in the realm of better information. For instance, some further study should be done on such issues as the comparability of information and a common "language" for postsecondary education.

APPENDICES

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APPENDIX B

PROJECT MERCURY

A semi-monthly newsletter about the National Task Force on Better Information for Student Choice

AUGUST, 1976

"Student consumerism" and "student consumer protection" have become catch phrases in postsecondary education.

There seems to be agreement that prospective students are not receiving adequate information about the institutions they want to consider.

In response to this new force seeping through postsecondary education, the Fund for the Improvement of Postsecondary Education awarded grants to a variety of institutions -- including Macomb County Community College -- to develop exemplary educational prospectuses for the National Project I, Better Information for Student Choice.

PROGRESS TO DATE

The Macomb County Community College prospectus now has preliminary drafts for the following chapters:

- Does College Really Matter? [exploration of some of the assumed benefits of education]
- Closing the Money Gap: A Financial Aid Information Packet [comprehensive information concerning the processes of financial aid, including profiles of past-aid recepients of Macomb County Community College, how and when to apply, who qualifies, etc.]

In addition, research is being conducted into:

- total per course and, where possible, per program cost information (credit hours, books, fees, materials)
- employment data for recent graduates (median salaries, salary ranges, education related or non-related)
- identification of an analytic tool for matching interests and abilities to a general career area
- analysis of career programs in terms of the first two items listed above and employment projections including discussion of the nature of work for different jobs.
- the concept of foregone earnings as an educational cost.

PERTINENT AND RELATED FINDINGS

The USOE has prepared regulations that outline general information reporting requirements to prospective students by those institutions cooperating in the Federal Insured Student Loan Program.

MACOMB COUNTY COMMUNITY COLLEGE – WARREN, MICHIGAN

APPENDIX C

FINANCIAL AID

Macomb County Community College maintains at each campus a financial aid program which enables students pursuing an associate degree or certificate who demonstrate financial need to meet the expenses of going to college. Funds are made available by the college, the state, and the federal government, as well as by individuals and organizations in Macomb County.

Kinds of Financial Aid
Three kinds of financial aid are available:

1. The grant or scholarship, which is given outright and does not have to be repaid.
2. The loan, which the student must repay after he completes his education.
3. Part-time student employment, in which the student earns a wage and is expected to budget these earnings in an effort to meet educational expenses.

Normally an attempt is made to award the student a combination of these three types of aid. The chief elements considered in such an award are the student's special circumstances and the level of available funds.

Before applying for financial aid, a student should first apply for admission to the campus offering the program in which he is interested.

Application for financial aid consists of:

1. The Basic Educational Opportunity Grant (BEOG) application. This can be obtained at high schools or at a campus financial aid office (G 157 Center Campus or G 314 South Campus). After completion is should be sent to: Basic Grants, P.O. Box A, Iowa City, Iowa, 52240.
2. The Parents' Confidential Statement (which should be sent to the College Scholarship Service, Box 881, Evanston, Illinois 60204) OR the Students' Financial Statement (which should be mailed to College Scholarship Service, Box 300, Berkeley, California 94701.
3. The MCCC Application for Financial Aid, which should be returned to the financial aid office of the campus of admission.

   All of the above three documents can be obtained at high schools or at either campus financial aid office.
4. A copy of family's Federal Income Tax Form 1040. If the family receives funds from the Department of Social Service, a statement to this effect from the Department of Social Service should be provided in place of the tax data. Whichever of these is used should be submitted to the financial aid office of the campus of admission.

   The filing deadlines for aid applications are May 1 for the fall semester and November 1 for the spring semester. Applications received after these dates will be considered "late applications" and will be processed in the order in which the application procedure becomes completed.

TUITION - RESIDENCY POLICY

For the purpose of tuition the following definitions and procedures are in effect:

a. A Macomb County resident is any individual who resides within the Community College District of the County of Macomb at the time of registration.
b. Macomb County property owners who reside outside of the Community College District of the County of Macomb will not be afforded resident rates.
c. An out-of-state resident is any individual who is residing outside the state of Michigan but within the United States.
d. Any alien (including spouse and minor children) lawfully admitted for permanent residence in the United States who has obtained his permanent visa and met the other requirements of the college for residence may register as a resident of this state or county.
e. Those admitted to the United States under a student or other temporary visa shall be defined as foreign students and assessed as such.
f. Tuition rates for resident or non-resident students enrolled under letters of understanding or agreement with an approved third party (recent corporation, resident employer, or employee association) shall be no less than resident tuition rates for regular college offerings and no less than actual costs for "special" programs or courses developed to meet designated needs. Rates for this category of student will not be paid individually but will be billed to the third party under whose auspices such students are enrolled.
g. At each registration students will be required to show documented evidence of residency, such as a driver's license, utility bills, rent receipts or the like.
h. Misrepresentation of residency is subject to disciplinary action by the College.
i. Decisions regarding residency may be appealed to the college business office (D 106 S.C.).

TUITION AND FEES

Tuition and fees are payable at the time of registration. The rates, subject to change without prior notice, are as follows:

Tuition	
Residents of Macomb County	$14.50 per credit hour
Non-residents of Macomb County	$27.00 per credit hour
Non-residents of Michigan	$37.00 per credit hour
Fees	
Registration Fee	$5.00
Late Registration	$5.00
Transcripts	$1.00

Course fees, ranging from $5 to $30, are charged for some courses. These fees are listed in the schedule of classes.

·APPENDIX D

DENTAL ASSISTANT - Center Campus

The Dental Assistant Program is designed to prepare students with the necessary skills to assist effectively in the many professional duties carried on in the modern dental office. This program is accredited by the Council on Dental Education of the American Dental Association. A career in dental assisting affords opportunities to achieve personal satisfaction from service to others and play a vital role on the dental health team. Employment in a professional atmosphere may be available in nearly every community.

Your responsibilities are divided between assisting in actual patient treatment and effective office management. In addition, certain phases of laboratory work, including the making of study models and developing x-rays, increase your effectiveness and proficiency.

Students who successfully complete this program are eligible to take the examination for Certified Dental Assistants.

ADMISSION REQUIREMENTS: Because of the nature of this program, applicant should be a high school graduate or equivalent, and have maintained a minimum of a 2.0 (C) average in high school academic subjects during the 10th and 11th grades, and be in good health.

Applications for qualified applicants will be accepted October 1-31.

Applicants selected will be required to submit a non-refundable deposit (fully applicable to tuition) to confirm acceptance into this program.

Information regarding courses, transferability, admissions criteria, electives, internship and financial aid may be obtained through the counseling office.

COURSE REQUIREMENTS

Certificate in Dental Assistant

1. The 10 Certificate Core courses listed below	31 Sem Hrs
	31

Associate Degree In Dental Assistant	Sem Hrs
1. The 10 Certificate Core courses listed below	31
2. The 8 Associate Degree Core courses listed below	24
3. Electives	7
	62

Certificate Core Courses - Dental Assistant	Suggested Sequence*				Sem Hrs
DOA 116 Elements of Dental Assisting	☒	☐	☐	☐	4
DOA 117 Basic Assisting Skills	☐	☒	☐	☐	4
DOA 126 Dental Materials I	☒	☐	☐	☐	3
DOA 127 Dental Materials II	☐	☒	☐	☐	3
DOA 130 Principles of Dental Science	☒	☐	☐	☐	3
DOA 146 Principles of Radiology	☒	☐	☐	☐	3
DOA 147 Radiographic Techniques	☐	☒	☐	☐	2
DOA 150 Dental Office Procedures	☒	☐	☐	☐	4
DOA 160 Seminar	☐	☒	☐	☐	2
DOA 170 Internship	☐	☒	☐	☐	3
					31

Associate Degree Core Courses - Dental Assistant	Suggested Sequence*				Sem Hrs
ALH 110 Health Concepts	☐	☐	☒	☐	1
ENG 116/121 English	☐	☐	☒	☐	3
ENG 117/122 English	☐	☐	☐	☒	3
NSC 122 Life Science	☐	☐	☒	☐	3
PED 100/104 to 197 Physical Education	☐	☐	☒	☐	2
PSY 101 Introductory Psychology	☐	☐	☐	☒	4
SSC 121 Man and Society	☐	☐	☒	☐	4
SSC 122 The American System	☐	☐	☐	☒	4
					24

APPENDIX E

The Educational Amendments of 1976 require that colleges and universities disclose the following information to students:

"A. the student financial assistance programs available to students who enroll at such institution,

"B. the method by which such assistance is distributed among student recipients who enroll at such institution,

"C. any means including forms by which application for student financial assistance is made and requirements for accurately preparing such applications and the review standards employed to make awards for student financial assistance,

"D. the rights and responsibilities of students receiving financial assistance under this title,

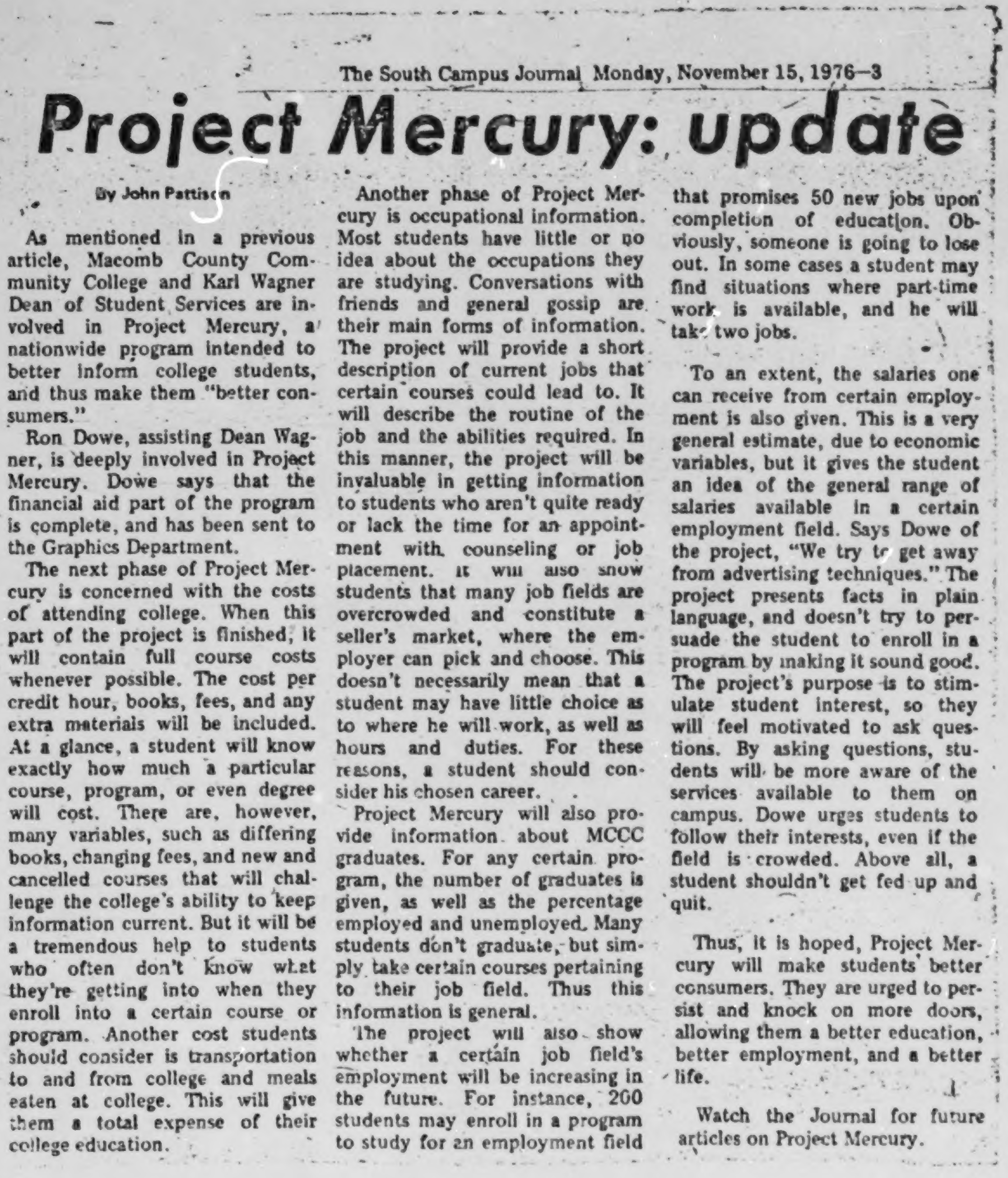
"E. the cost of attending the institution including (i) tuition and fees, (ii) books and supplies, (iii) estimates of typical student room and board costs or typical community costs, and (iv) any additional cost of the program in which the student is enrolled or expresses a specific interest,

"F. the refund policy of the institution for the return of unearned tuition and fees or other refundable portion of cost.

"G. the academic program of the institution, including (i) the current degree programs and other educational and training programs, (ii) the instructional, laboratory, and other physical plant facilities which relate to the academic program, (iii) the faculty and other instructional personnel and (iv) data regarding student retention at the institution and, when available the number and percentage of students completing the programs in which the student is enrolled or expresses interest, and

"H. each person designated under subsection (b) of this section, and the methods by which and locations in which any person so designated may be contacted by students and prospective students who are seeking information required by this subsection."

APPENDIX F



The South Campus Journal Monday, November 15, 1976—3

Project Mercury: update

By John Pattison

As mentioned in a previous article, Macomb County Community College and Karl Wagner Dean of Student Services are involved in Project Mercury, a nationwide program intended to better inform college students, and thus make them "better consumers."

Ron Dowe, assisting Dean Wagner, is deeply involved in Project Mercury. Dowe says that the financial aid part of the program is complete, and has been sent to the Graphics Department.

The next phase of Project Mercury is concerned with the costs of attending college. When this part of the project is finished, it will contain full course costs whenever possible. The cost per credit hour, books, fees, and any extra materials will be included. At a glance, a student will know exactly how much a particular course, program, or even degree will cost. There are, however, many variables, such as differing books, changing fees, and new and cancelled courses that will challenge the college's ability to keep information current. But it will be a tremendous help to students who often don't know what they're getting into when they enroll into a certain course or program. Another cost students should consider is transportation to and from college and meals eaten at college. This will give them a total expense of their college education.

Another phase of Project Mercury is occupational information. Most students have little or no idea about the occupations they are studying. Conversations with friends and general gossip are their main forms of information. The project will provide a short description of current jobs that certain courses could lead to. It will describe the routine of the job and the abilities required. In this manner, the project will be invaluable in getting information to students who aren't quite ready or lack the time for an appointment with counseling or job placement. It will also show students that many job fields are overcrowded and constitute a seller's market, where the employer can pick and choose. This doesn't necessarily mean that a student may have little choice as to where he will work, as well as hours and duties. For these reasons, a student should consider his chosen career.

Project Mercury will also provide information about MCCC graduates. For any certain program, the number of graduates is given, as well as the percentage employed and unemployed. Many students don't graduate, but simply take certain courses pertaining to their job field. Thus this information is general.

The project will also show whether a certain job field's employment will be increasing in the future. For instance, 200 students may enroll in a program to study for an employment field that promises 50 new jobs upon completion of education. Obviously, someone is going to lose out. In some cases a student may find situations where part-time work is available, and he will take two jobs.

To an extent, the salaries one can receive from certain employment is also given. This is a very general estimate, due to economic variables, but it gives the student an idea of the general range of salaries available in a certain employment field. Says Dowe of the project, "We try to get away from advertising techniques." The project presents facts in plain language, and doesn't try to persuade the student to enroll in a program by making it sound good. The project's purpose is to stimulate student interest, so they will feel motivated to ask questions. By asking questions, students will be more aware of the services available to them on campus. Dowe urges students to follow their interests, even if the field is crowded. Above all, a student shouldn't get fed up and quit.

Thus, it is hoped, Project Mercury will make students' better consumers. They are urged to persist and knock on more doors, allowing them a better education, better employment, and a better life.

Watch the Journal for future articles on Project Mercury.

CLOSING THE MONEY GAP:

A FINANCIAL AID INFORMATION PACKET

The information packet is made up of three parts:

> Part I – "Take These Steps to Apply for Your Share of Financial Aid." If you follow the steps outlined in this booklet, you will be assured of full consideration for financial assistance at Macomb County Community College.
>
> Part II – "Everything You Always Wanted to Know About Financial Aid" answers many of your questions about the *whys*, *hows* and *wherefores* of financial aid. It should give you a basic understanding of this complex system.
>
> Part III – "Financial Aid Programs," the third part of the packet, contains descriptions of specific financial aid programs to help you understand their awards limits, eligibility requirements, repayment procedures (for loans), where to apply or get information, and any other special features.

In addition, it has been designed to provide you with most of the applications you will need and other brochures that pertain to available financial aid.

CLOSING THE MONEY GAP
Part I

what you need to know about financial aid

Financial aid will help pay the difference between what you can afford to pay and what it will actually cost you to go to college.

Your net expenses (what you can *afford* to pay) will be the same at any college or university for the same period of time. Your *ability to pay* does not change, but financial aid expands or contracts to *meet the difference.*

In other words, if you have $500 available for college expenses and you are considering Macomb County Community College, with expenses of $2,400, and Podunck University, with expenses of $4,000, your financial aid at MCCC should be in the neighborhood of $1,900 and at PU it will be in the neighborhood of $3,500. Your decision to attend one or the other college should not be dependent upon the gross expenses of either school.

YOU DO NOT NEED TO BE *LOW-INCOME* TO RECEIVE OR BE ELIGIBLE FOR FINANCIAL AID.

THE KICKER

Institutions don't always have all the money available to completely close the gap between what money a student has and what money a student needs. For example, at Macomb County Community College - South Campus in 1975-76 approximately 97% of the gap (student need) was closed. At another college the gap may be much larger or much smaller, so it does pay to shop around and ask questions of the colleges you are considering.

REMEMBER, *YOU* ARE RESPONSIBLE FOR INITIATING THE PROCESS:
IT'S NEVER TOO EARLY TO FILE YOUR APPLICATION

take these steps to apply for your share of financial aid

some hints

- *DON'T PANIC!* There are a lot of forms and applications to fill out, but if you need money for college, it will be well worth your time to sit down and apply.

- Read everything through at least once *before* you start writing down information – learn the ins-and-outs of the programs *before* filling up applications. You may say the wrong thing when it could have been avoided.

- Better still, read through and consult the other sections of *Closing The Money Gap: A Financial Aid Information Packet.*

- If you're still confused and have questions that don't seem to have answers, consult with the college financial aid officer.

- When reporting next year's estimated income, only put down income you're *guaranteed* to receive; don't include income from jobs that are only a possibility or from financial aid not yet approved.

- Get involved. Be a hustler. Be diligent. Ask questions. When you talk to someone, ask for (and write down) their name and title. Come on softly, don't walk in screaming or crying, be persistent, and get your question answered so that *you* understand. Use every available means of redress. Work for your rightful benefits. *And keep a record of everything you do.*

IT'S NEVER TOO LATE TO APPLY FOR A BEOG — ALMOST!

- BEOG is a federal entitlement program.

- The deadline for the 1977-78 academic year is March 15, *1978.* In other words, it's possible to receive a BEOG *after* you begin studying.

- But, to be eligible for other financial assistance administered by MCCC, you *must* submit a BEOG application.

- *And*, the deadline for *priority* consideration for financial assistance administered by MCCC for the 1977-78 school year is May 1, 1977 (Nov. 1, *1977*, Jan. entrants). After this date the money usually runs out.

SO . . . APPLY EARLY AND MAXIMIZE YOUR CHANCES FOR FINANCIAL ASSISTANCE . . . BUT MAKE SURE THAT YOU APPLY FOR A BEOG.

follow this checklist . . .	when is the best time?
☐ **1.** Read this complete packet of information. This is the first step in the process of applying for financial aid. See a financial aid or high school counselor. Find out if you are eligible for Social Security or Veterans benefits (see **"Everything You Always Wanted To Know About Financial Aid"**). Pick up all the forms you will need (they are available from the Financial Aid Office of either South or Center Campus): ☐ Macomb County Community College Application for Admission (fill this out and bring it in or mail it immediately to the campus in which you are interested—there is no fee) ☐ Macomb County Community College Application for Financial Aid ☐ Basic Educational Opportunity Grant Application (BEOG)—Federal Government ☐ Financial Aid Form (FAF)—College Scholarship Service ☐ Affidavit of Non-Support (for financially independent students—see **"Everything You Always Wanted To Know About Financial Aid"**) ☐ Copy of Federal Income Tax Form 1040 (for the year immediately preceding the academic year of your intended enrollment) ☐ Statement of Non-Taxable Income (see **"Everything You Always Wanted To Know About Financial Aid"**) ☐ State of Michigan Tuition Grant Program Application (if you are considering a *private* college or university—see financial aid or high school counselor)	As soon as possible, but we recommend that you do so before APRIL 1 (if you expect to start school in the fall) or OCT 1 (if you expect to start school in January). The earlier you start, the better your chances are for receiving 100% of the money you need.
☐ **2.** If you are or expect to be a high school graduate, register for the American College Test (ACT)—for the *State of Michigan Competitive Scholarship Program* (see your financial aid or high school counselor). The ACT exam must be taken before college entry if you wish to qualify for a Competitive Scholarship.	Best time is in FEB or MARCH of year prior to expected enrollment (last test date for consideration is in OCT).
☐ **3.** If you are considering a private college or university (*not* MCCC), complete the State of Michigan Tuition Grant Program Application.	Any time before DECEMBER 31 of year prior to expected enrollment.

☐	**4.**	Pick a quiet evening and plan to spend several hours on your applications. Make sure that you have pencils, scratch paper and a pen, then sit down with a copy of your most recent Federal Income Tax Form and complete the MCCC Application for Financial Aid. Do not send it in yet. Just put it aside.	All materials should be received before MAY 1 or NOV 1. Best time, though, would be APRIL 1 or OCT 1.
☐	**5.**	Complete the BEOG application, as per the instructions.	Anytime up until MARCH 15 of the 2nd semester of the academic year in which you will use the grant. However, for priority consideration for other financial aid, complete it by APRIL 1 or OCT 1 along with the rest of your MCCC application. Processing takes 4 to 6 weeks.
☐	**6.**	Complete the FAF (Financial Aid Form), as per the instructions. *Remember to designate the college you wish to receive the results of the financial analysis. Include the State of Michigan if you are applying for state aid. There is a $4 fee for the first school and $1.50 for each additional school. Include $1 if you would like to receive* **"Report to FAF Filer"**, *which provides an estimate of family contribution (what you can afford to pay).*	For most favorable consideration, should be filed before APRIL 1 (fall entrants) or OCT 1 (January entrants). Processing takes 4 to 6 weeks.
☐	**7.**	If you are a financially independent student, complete and have notorized the *Affidavit of Non-Support.*	Must be filed with MCCC application before MAY 1 (or NOV 1).
☐	**8.**	If you or your family receive any *non-taxable* income (ADC, Welfare, Social Security, etc.), you must complete a *Statement of Non-Taxable Income.*	Must be filed with MCCC Application before MAY 1 or NOV 1.
☐	**9.**	Take a 30 minute break. . .have a cup of coffee or glass of milk. . .play some frisbee. . .watch T.V.	
☐	**10.**	Welcome back! Review carefully all of the above steps and the applications and forms you have completed. Check for accuracy — name, social security number, address, etc. Make sure that you have signed all of them. *Before you continue make sure that you make and keep a copy of everything you send in.* You will need these copies if you have questions later on.	

☐ **11.**	MAIL 1. *Macomb County Community College Application for Financial Aid*, and 2. one copy of your family's most recent *Federal Income Tax Form*, and 3. the *Affidavit of Non-Support* (if applicable), and 4. the *Statement of Non-Taxable Income* (if applicable)	TO Financial Aid Office Macomb County Community College South Campus OR Center Campus 14500 Twelve Mile Road / 16500 Hall Road Warren, MI 48093 / Mt. Clemens, MI 48043
	5. Send BEOG Application	TO Basic Grants P.O. Box B Iowa City, Iowa 52240
	6. Mail your completed FAF (plus the fee) for processing	TO College Scholarship Service Box 2700 Princeton, NJ 08540
☐ **12.**	You should receive a Student Eligibility Report (SER) for the BEOG approximately 4 weeks after it was filed. Take it to the Financial Aid Office immediately. If you do not receive the SER, write . . . . .and include in your letter your Social Security number and birthdate.	TO Basic Grants P.O. Box O Iowa City, Iowa 52240
☐ **13.**	The Financial Aid Office will inform you of any awards in	JUNE
☐ **14.**	You must accept or decline the award *within 10 days* after receiving notification of your award.	
☐ **15.**	If you have any questions or are not in agreement with action taken on your application for financial aid, request reconsideration or appeal with.	Financial Aid Officer South Campus / Center Campus 14500 Twelve Mile Road / 16500 Hall Road Warren, MI 48093 / Mt. Clemens, MI 48043 G-312 / G-157
☐ **16.**	If you are still dissatisfied, you may appeal to.	M. MacTavish OR C. Dennis Associate Dean / Associate Dean South Campus / Center Campus (779-7184) G-301-1 / (286-8000 EXT 280) G-157

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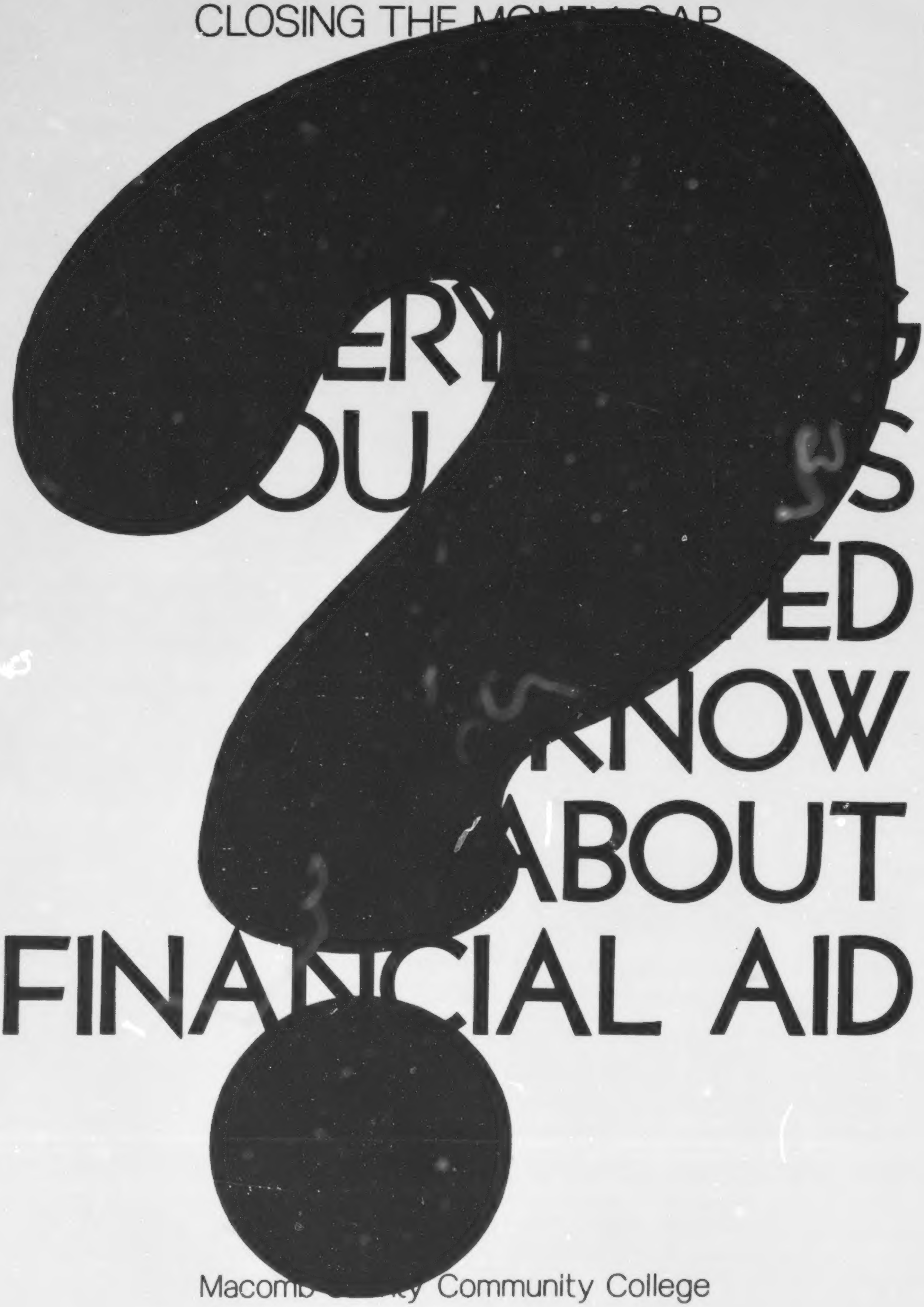

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ABOUT
FINANCIAL AID

Macomb Community College

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Preface

Financing a college education can be a complicated and long-term process. To cope with the problems and increase the possibility of receiving adequate financial support, students and parents need to plan ahead.

"Closing the Money Gap" has been prepared to assist interested persons in determining their probable eligibility for financial assistance. While **"Closing the Money Gap"** is chiefly concerned with Macomb County Community College, you may find much of the information of use to you wherever you decide to pursue further education.

The information packet is made up of three parts:

Part I – "Take These Steps to Apply for Your Share of Financial Aid." If you follow the steps outlined in this booklet, you will be assured of full consideration for financial assistance at Macomb County Community College.

Part II – "Everything You Always Wanted to Know About Financial Aid" answers many of your questions about the *whys, hows* and *wherefores* of financial aid. It should give you a basic understanding of this complex system.

Part III – "Financial Aid Programs," the third part of the packet, contains descriptions of specific financial aid programs to help you understand their award limits, eligibility requirements, repayment procedures (for loans), where to apply or get information, and any other special features.

In addition, it has been designed to provide you with most of the applications you will need and other brochures that pertain to available financial aid. Our aim has been to provide you with essential, understandable and complete information. Nonetheless, information "gaps" may still exist. If you do need any additional information, you are welcome to call or visit our financial aid offices.

DIAL 779-7228 - SOUTH CAMPUS
14500 Twelve Mile Road, Warren, MI 48093

DIAL 286-7715 - CENTER CAMPUS
16500 Hall Road, Mount Clemens, MI 48043

EVERYTHING YOU ALWAYS WANTED TO KNOW ABOUT FINANCIAL AID . . .

SOME GROUND RULES FOR FINANCIAL AID

- the family, to the extent that it can contribute, has the primary responsibility for financing the cost of a student's education.
- the student shares in this responsibility and is expected to contribute from his or her savings, from employment, and if necessary from future earnings in the form of a loan.
- all families are treated equally through the use of a *standard analysis of need* (a way of determining how much you can afford to pay).
- financial aid is distributed to eligible students as a "package" made up of one or a combination of the following: scholarships, grants, loans, and part-time employment.

Statements of the National Task Force on Financial Aid

". . . society and individuals both benefit from the products of education and society is willing to invest some of its resources in order to receive these benefits."

". . . the primary purpose of student aid programs should be to increase access to, choice of, and retention in, postsecondary educational opportunities."

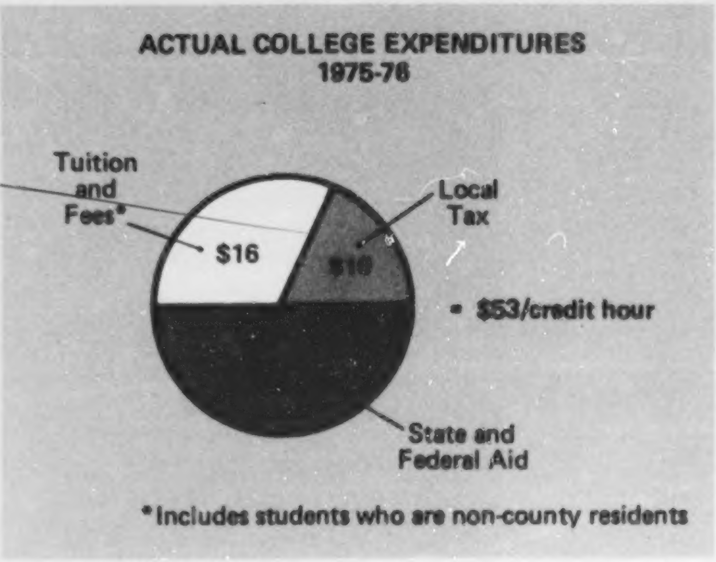
WHAT IS FINANCIAL AID?

Financial aid is a system of economic assistance to help individuals meet their educational expenses. It sometimes comes in the form of a check and sometimes in the form of credit (deductions are made on your bill), but in any case it helps you meet the expenses of going to college.

WHAT IS THE PURPOSE OF THE FINANCIAL AID PROGRAM?

The purpose of the financial aid program at Macomb County Community College is to assist students who would be unable to attend the college without such aid.

It reflects the philosophy that education benefits not only the individual but society as well. Therefore, the responsibility for meeting the costs of college expenses, while chiefly borne by the student and his or her family, is shared by educational institutions, private donors, agencies, and our state and federal governments.



*Includes students who are non-county residents

Figure I - "Financial Assistance" all MCCC students receive

HOW MUCH WILL IT COST?

Many of you believe that college will cost you exactly what the college itself estimates in its catalogue. And because you believe that *you* have to pay the full cost, whatever it is, you may be discouraged from considering more expensive institutions. Both of these beliefs are not completely true.

Your real cost of college attendance will usually be equal to the amount that you can afford, and the amount that you can afford does not change from school to school—it remains constant.

For example, if it's determined that you can afford $1,000 per year toward college expenses, you will pay only $1,000 even if the school you wish to attend (assuming you are accepted) "costs" $5,000. Financial aid should make up the difference. Likewise, if you consider a school with expenses less than $1,000, you will be expected to pay the full estimated amount. In either case, your "cost" should never exceed what you can afford.

WHAT DOES IT COST TO ATTEND MCCC?

The following are examples of the estimated expenses (also called budgets) of attending Macomb County Community College.

As you can see, the budgets used by our financial aid office (and, incidentally, most colleges) include *direct educational costs* such as tuition, fees, books, supplies, and transportation; and *indirect costs* associated with personal maintenance, including room, board, and personal expenses like clothes, laundry, and recreation.

Are these expenses realistic for you? They may or may not be. You might estimate your own expenses and compare that estimate with the expense category that fits your plans for the coming year. If your own budget differs greatly from those we have listed (your *indirect costs* are higher because you have 12 children you must support, for example) you should make an appointment with one of our financial aid officers to talk about your situation.

STATUS		TUITION/ FEES††	BOOKS	TRANSPORTATION	SUB-TOTAL*	MAINTENANCE	PERSONAL	TOTAL
Full Time (12+ hours)	†Resident	$465	$155	$400	$1020	$900	$480	$2400
	†Nonresident	$655	$155	$800	$1610	$900	$480	$2990
3/4 Time (9-11 hours)	Resident	$300	$100	$400	$ 800	$675	$360	$1835
	Nonresident	$550	$100	$600	$1250	$675	$360	$2285
1/2 Time (6-8 hours)	Resident	$210	$ 70	$200	$ 480	$450	$240	$1170
	Nonresident	$385	$ 70	$300	$ 755	$450	$240	$1445
Your Own Estimated Expenses								$

Table I - Average expenses Macomb County Community College

*The Sub-Total, *direct educational expenses*, is equal to the sum of tuition, fees, books, and transportation.

†See page 15 for college residency policy statement.

††Since tuition, fees and the cost of books and equipment may vary considerably from course to course and program to program, all dollar amounts have been estimated--tuition/fees at the rate of $15 per credit hour for county residents, $27.58 per credit hour for non-county students, and the cost of books at $5.00 per credit hour--averaged, and rounded-off where necessary. See page 15 for list of tuition and fees.

Special Note: Remember, these are only averages. If you would like to estimate more accurately the cost of the program you are interested in, see the MCCC prospectus booklet, **"Programs"** (available from the Admissions Office). You will find current estimates *by course* and program (where available) of all costs--total of tuition, fees, books, and supplies.

WHERE WILL THE MONEY FOR COLLEGE COME FROM?

There are two basic sources for the payment of college related expenses: *personal and family resources* (self-help) and *everything else.*

Proper planning and favorable circumstances may have made it possible for you and your family to meet all or most of the costs of college, but even should personal and family resources fall short of meeting all or any of the costs, you can always turn to the *everything else* category for assistance in the form of scholarships, grants, loans, and jobs.

Financial assistance is available for individuals who are interested in post-high school education and take the time and make the effort to apply for his/her share.

Figure II

WHAT IS NEED?

The single, most important criteria for qualifying for financial aid is need. Financial need is *the difference between the cost of education and your ability to meet that cost.* In other words, it is the amount of money you will need *in addition* to what you (and your parents, if you are a dependent) are expected to contribute to meet your college expenses.

HOW IS FINANCIAL NEED DETERMINED?

Financial need is determined by a process used by thousands of colleges and universities that estimates *what you can afford to pay for college.** This may be different from what you think you can afford since you might not consider many of the things that affect you financially and which are used in the formulas. One general system is used so that everyone who applies is treated fairly and equally.

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*Macomb County Community College utilizes the College Scholarship Service (CSS), an independent, nonprofit agency, for determining what a student can afford to pay. Each student who wants to be considered for financial assistance must fill out the CSS **Financial Aid Form**. See the **"Closing the Money Gap"** booklet, **"Take These Steps to Apply for Your Share of Financial Aid."**

The system begins with your *total income* and subtracts taxes, tax credits, medical and dental expenses housekeeping and other expenses. What is left is called *available income.*

At the same time, your *assets* (value of home, savings, investments, real estate, etc.) are analyzed. Such things as *debts* and other allowances are subtracted and your *net worth* (what you would be worth if you could sell all of your assets) is converted to a dollar amount (called income supplement) to add to your *available income.*

The sum of your *available income* and the *income supplement* is called your *adjusted available income.* This is an estimate of the *extra* money you have available (or could make available) to "buy" things like movies, extra clothes, a second car, a new bicycle, television set or new appliances, or to take a long trip. This amount is reduced to give an estimate of *expected (or parent) contribution.* You are *not* expected to spend all of your *adjusted available income* on college, only part of it.

If you are financially dependent upon your parents (see page 11), your assets, summer earnings and any other income you have (Social Security, Veterans benefits, etc.) are added together to arrive at the *student contribution,* which is then added to the *parent contribution.*

This final amount, called *total family contribution,* estimates what you can afford to pay.

When the *total family contribution* is subtracted from the *total costs,* we find the estimated *financial need.* This is the amount of money that could be made available to you in the form of *financial aid.*

WHO DETERMINES FINANCIAL NEED?

- the College Scholarship Service (FAF form);
- the Basic Educational Opportunity Grant (BEOG) Program,* and
- the college financial aid officer through a review of your application.

WHAT IS UNMET NEED?

Unmet need refers to the money you still need for school even after subtracting what you can contribute, any BEOG grant, state or other special scholarship or grant. This is the portion of your expenses that the financial aid office of Macomb County Community College will help you fill.

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*Don't panic! You can find out what the BEOG Program is by reading the "**Closing the Money Gap**" booklet "**Financial Aid Programs.**"

THE JODY FREEMAN EXAMPLE

College expenses	$2400
Jody's contribution	600
Total need	$1800
Subtract BEOG grant	800
Unmet need	$1000

Figure III

WHAT IS A FINANCIAL AID PACKAGE?

A *financial aid package* is a combination of different forms of financial aid (grants, loans, scholarships, and work-study jobs) that together make up the difference (the gap) between what you can afford to pay and what it will cost you to go to college. It is the method by which colleges fill your *unmet need*. Your *package* will be specially tailored to your need and special circumstances.

WHAT ARE THE DIFFERENT FORMS OF FINANCIAL AID?

Financial aid comes under the guise of many names and from a wide variety of sources. There are four general categories: *entitlements*, *scholarships* or *grants*, *loans*, and *employment* (for specific information about these sources see the **"Closing the Money Gap"** booklet, **"Financial Aid Programs,"** available from the Financial Aid Office, Macomb County Community College).

Entitlements

Entitlements are funds available as a supplement to your income while you are attending college. You are under no obligation to repay them and eligibility is not determined on the basis of need but on the basis of other special characteristics of the recipient. Examples of entitlements are the GI Bill, Social Security benefits, and vocational rehabilitation.

Scholarships and Grants

Scholarships and grants are similar in that no service need be rendered if awarded, nor is there any repayment of the award. They differ, however, in that scholarships are generally awarded on the basis of grades and financial need, while grants are awarded to low and middle-income students deserving of financial assistance regardless of scholastic achievement. Typical sources of scholarships are corporations, private donors, foundations, fraternal organizations, and local and state governments. Grants are awarded by many of the same sources, and the federal government has several grant programs (BEOG and SEOG).

Loans

Loans are a lien on future earnings. The money received in a loan is a formal financial obligation that must be repaid (some exceptions are noted in the **"Closing the Money Gap"** booklet, **"Financial Aid Programs"**). You should be aware of the interest charges, how you will have to repay the loan after graduation, and the effect additional loans will have on your ability to meet all of your later financial obligations.

Loans are, by the way, a good alternative way to finance your education. There is no interest charged while you are in school, and only 3%-7% interest is charged once repayment begins *9 months after graduation.* In addition, you borrow 1975 dollars and repay later with 1980 dollars—when the dollar will probably be worth less and your own earning power greater.

Employment

Many individuals, of course, whether they apply for financial aid or not, choose to defray some of their expenses by working part-time while attending college. Anyone can go out and look for such employment on their own. As part of the financial aid package at Macomb County Community College, eligible students may be given the option of meeting part of their need through College Work Study administered by the college. Before accepting employment you should consider such things as: your course load, the study time you will require, family obligations, and what effect employment earnings might have on your eligibility, if applicable, for welfare payments to which you are entitled.

HOW WILL MY NEED BE MET?

When you apply for financial aid, you are automatically considered for all three kinds of aid—scholarships/grants, loans, and employment—and you may be offered a combination of two or three of them. The following guidelines (see Figure IV, pg. 9) describe how financial aid is awarded at Macomb County Community College. By figuring out how much you might be expected to contribute (what you can afford) in the College Scholarship Services booklet, **"Meeting College Costs"**, you will have some idea about your chances of receiving financial aid; if you then look at the guidelines, you will have some idea of the kind of a *package* you can expect to receive.*

SOUTH CAMPUS 1975-76

TOTAL NEED	RECIPIENTS	AVERAGE AWARD	% OF NEED MET FROM ALL SOURCES
< $200	5	$ 100	90%
200—499	23	$ 359	102%
500—749	75	$ 672	97%
750—999	34	$ 871	96%
1000—1199	25	$1086	97%
1200—1499	95	$1370	97%
1500—1999	87	$1883	106%
$2000+	22	$2117	99%

Table II - % of financial need met (from ALL sources)

UNMET NEED	RECIPIENTS	AVERAGE AWARD	% OF UNMET NEED MET FROM ALL SOURCES
< $200	15	$ 132	142%
200—499	78	$ 352	103%
500—749	103	$ 586	95%
750—999	58	$ 957	107%
1000—1199	40	$1111	102%
1200—1499	53	$1307	96%
1500—1999	27	$1667	98%
$2000+	2	$2010	99%

Table III - % of unmet need met by MCCC Financial Aid Office

*"Meeting College Costs" is included in **"Closing the Money Gap; A Financial Aid Information Packet"** or directly from the Financial Aid Office Macomb County Community College.

All students who file a **Financial Aid Form (FAF)** with the College Scholarship Service also request a **Request to FAF Filer** will receive a report indicating what they will be expected to contribute (what they can afford), as well as other information essential to the analysis of need.

FAMILY ADJUSTED EFFECTIVE INCOME	STATUS	DEPENDENT			INDEPENDENT			FAMILY ADJUSTED EFFECTIVE INCOME
		No. OF SEMESTER AWARDS	AVERAGE NEED	AVERAGE AWARD	No. OF SEMESTER AWARDS	AVERAGE NEED	AVERAGE AWARD	
$0 - 2,999	full-time	9	$986	$971	46	$767	$760	$0 - 2,999
	¾-time	0			1	359	372	
	½-time	0			5	312	212	
$3,000 - 5,999	full-time	71	971	975	173	725	705	$3,000 - 5,999
	¾-time	0			33	355	366	
	½-time	0			4	332	292	
$6,000 - 7,499	full-time	33	944	1026	18	673	644	$6,000 - 7,499
	¾-time	0			5	359	385	
	½-time	0			7	231	183	
$7,500 - 8,999	full-time	56	936	945	20	692	685	$7,500 - 8,999
	¾-time	2	517	534	0			
	½-time	0			3	125	100	
$9,000 - 11,999	full-time	84	831	854	3	598	583	$9,000 - 11,999
	¾-time	2	567	557	3	442	427	
	½-time	0			0			
$12,000 - 14,999	full-time	51	592	575	0			$12,000 - 14,999
	¾-time	1	234	219	0			
	½-time	0			0			
$15,000 +	full-time	12	318	306	0			$15,000 +
	¾-time	1	418	400	0			
	½-time	0			0			

Table IV - How will my need be met?
Average financial aid awards (South Campus) by semester 1975-76

UNMET NEED (after BEOG and other awards)	TYPES OF AWARDS	POSSIBLE PACKAGES*
<$200	No award made by Macomb.	
$200–$749	1 Student is given option of a loan. 2 If total family contribution is less than ½ of budget, student is eligible for SEOG–50% SEOG grant and balance in loan.	1 OR 2
$750–$999	1 Student is given option of job or loan. 2 If total family contribution is less than ½ of budget, student is eligible for SEOG–50% SEOG grant and balance in job or loan.	1 OR 2
$1,000–$1,249	1 Student is eligible for MCCC Grant (not to exceed $400). 2 If total family contribution is less than ½ of budget, student is eligible for SEOG–50% SEOG grant and balance in job or loan. 3 Student is given option of job or loan.	1 AND 2 OR 1 AND 3 OR 2 OR 3
$1,250–$1,500	1 Student is eligible for MCCC Grant (not to exceed $400). 2 50% SEOG grant and 50% loan.	1 AND 2 OR 2
>$1,500	1 Student is eligible for MCCC Grant (not to exceed $400). 2 50% SEOG grant and 50% in job and/or loan.	1 AND 2 OR 2

*Financial aid packages depend upon the amount of funds available and the special circumstances of the student.

Figure IV - How will my need be met?
General guidelines for financial aid awards 1976-77

HOW DO I QUALIFY FOR FINANCIAL AID?

The only way to qualify for financial aid is to apply. To receive financial aid you must be enrolled at least half-time (6 or more credits per term) and demonstrate financial need. If you follow the steps outlined in the **"Closing the Money Gap"** booklet, **"Take These Steps to Apply for Your Share of Financial Aid"** (available from the financial aid office, Macomb County Community College), you will receive first priority consideration with other applicants who submit the completed applications before the May 1 (or November 1) deadline. Since funds are limited in all of the programs, applications that are completed* after the deadline are considered for financial aid only as long as funds permit. If any part of your application is late, your chances of receiving financial assistance for the full amount of your need are much less.

One last word about deadlines: one major source of financial assistance—the BEOG program—has a special feature which allows you to apply for and receive your full entitlement even after you start studying. For example, during the 1976-77 academic year applications were honored through *March 15, 1977*. That means that even if you had started studying earlier, you would have still received your full entitlement through BEOG if you had applied before that March 15 deadline.

There is one difficulty, though: the BEOG grant may not completely close your money gap, and other sources of financial assistance usually require earlier application. After this earlier deadline, as we mentioned before, funds usually run out. So, cover all your bets: *apply early and make sure that your applications are complete.*

DO MY GRADES OR CREDIT HOURS AFFECT MY ELIGIBILITY FOR FINANCIAL AID?

Yes, both your grades and your credit hours affect your eligibility. For instance, you must maintain "satisfactory" academic progress (passing grades—a 2.0 grade point average) to be considered for financial aid when you reapply.

Since the number of credit hours you enroll for affects your educational expenses (see page 4), financial aid will vary on the number of credit hours you complete:

- a full-time student is a student enrolled for 12 or more hours per semester;
- a ¾-time student is a student enrolled for 9 to 11 hours per semester and;
- a ½-time student is a student enrolled for 6 to 8 hours.

In any case, you are eligible for consideration for financial aid at Macomb County Community College only until you earn a total of 62 credit hours, the equivalent of two full years of study (15 to 16 hours per semester).

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*"Completed" means that all applications, affidavits, and analysis of need are on file in (received by) the Financial Aid Office of Macomb County Community College before the May 1 (or November 1) deadline.

WHAT IF MY PARENTS REFUSE TO DISCLOSE FINANCIAL INFORMATION ON THE FAF?

If you are financially dependent upon your parents, they must provide the information called for on the FAF. Without this information, your application cannot be processed and there would be no way for our financial aid office to determine your actual need. Both of these are not only requirements set forth by the federal government, but they are also efforts to maintain fairness in the distribution of available funds.

AND IF MY PARENTS REFUSE TO CONTRIBUTE FINANCIAL SUPPORT?

Parental contribution for the dependent student is a basic tenet of financial aid philosophy. We know, however, that some parents are unable or unwilling to provide the support prescribed by the need analysis system. In such cases we recommend that you seek part-time employment and/or a loan to replace the amount that would normally be expected to come from the parental contribution. Contact the financial aid office for additional information.

WHAT IF I AM INDEPENDENT OF MY PARENTS?

To be considered financially independent for purposes of financial aid, you would have to answer NO to all of the following questions:

☐ YES ☐ NO Have your parents or guardians contributed more than $600 in cash or gifts toward your support during the present or past year?

☐ YES ☐ NO Did your parents or guardians claim you as a tax exemption last year or will they this year?

☐ YES ☐ NO Have you resided with you parents or guardians for more than two continuous weeks last year or this year?

Federal law requires that if you receive $600 or more (cash or in-kind) support from your parents, their income must be considered. *Support* means any gift they may have given you, the fact that you are or have been claimed as a tax exemption, or the fact that you are or have been living with them. You would have to demonstrate complete self-support for at least a preceeding year before your parents' income could be disregarded.

Thus, you would be considered an independent student if your answers were NO to all three questions above. In addition to the FAF, you should submit a notarized affidavit of non-support (available from the financial aid office).

DO I AUTOMATICALLY RECEIVE AID FOR A SECOND YEAR OR SEMESTER?

No. All programs require that you reapply each year so that decisions can be based upon your current family situation. If you received financial aid last year, you will be notified about reapplication. But even if you don't receive financial aid the first year that you apply, it's a good idea to reapply in future years because not only changes in your financial circumstances but also increases in college expenses might mean that you qualify for financial aid. Just follow all of the steps outlined in **"Take These Steps to Apply for Your Share of Financial Aid"**.

WHAT IF SOMETHING HAPPENS TO MY FAMILY'S FINANCIAL CIRCUMSTANCES?

You should report any changes in your circumstances (death, divorce, marriage, disability, long-term unemployment, or low income) to the financial aid office and to all programs to which you have separately applied as soon as possible. You may become eligible for additional assistance.

WHAT IF I HAVE A QUESTION OR DO NOT UNDERSTAND WHY I RECEIVED (OR DID NOT RECEIVE) A PARTICULAR AWARD?

By all means you should ask questions. Make an appointment with the financial aid officer at the college you have applied to or are attending. Be sure to take with you copies of your applications and Federal Income Tax Form 1040 for the year in which you have applied for financial aid.

South Campus

779-7228
14500 Twelve Mile Road
Warren, MI 48093
G-312
9:00 a.m.-4:00 p.m Mon/Fri.
Karen Rexin,
Financial Aid Office, Technician

Center Campus

286-7715
16500 Hall Road
Mt. Clemens, MI 48043
G-157
9:00 a.m.- 4:00 p.m. Mon/Fri
Dennis Brovont,
Financial Aid Office, Technician

OTHER SOURCES OF INFORMATION

You've gotten this far and are still with us: some congratulations are in order! Of course, maybe you skipped everything in between; but even so, if you plan to consult any of the reference sources listed on the next page, you are to be doubly congratulated for your persistence and interest. But don't forget to check out the following areas, too:

- if you are from a minority racial-ethnic background, talk with representatives of appropriate racial-ethnic organizations.
- check out any resources available through your religious affiliation.
- if you or someone from your immediate family has had military service experience, investigate your eligibility for veterans benefits.
- check out business and union affiliations—often there are employee education provisions and unions may have programs for their members.
- check out the area where you live—some counties, school districts, cities, etc. have resources available for eligible residents.
- check out clubs and civic organizations to which you or your family belong.
- have you looked into professional groups, local foundation, banks, citizen groups, newspapers, or magazines?

In short, don't leave any stone unturned in your search for financial assistance for which you might be eligible.

The following is only a partial list of reference sources for information about financial aid. Good luck in your search.

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LIST OF REFERENCES

BEOG Information – Dial 1/800/553-6350 Toll Free

Catalog of Federal Education Assistance Programs, (in your local library or directly from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402).

Making It: A Guide to Student Finances, Harvard Student Agencies (available in the Macomb County Community College Library).

Michigan Department of Education, Student Financial Assistance Services, Box 420, Lansing MI 48902 (telephone: 517/373-3394).

1976-77 Michigan Postsecondary Admissions & Financial Assistance Handbook, Michigan Department of Education (available for reference in the college financial aid office).

Office of Latino Education, Michigan Department of Education, 450 Michigan National Tower, Lansing, MI 48902 (Ms. Idali Feliciano, telephone: 517/373-3260).

Scholarship Officer, Michigan Inter-Tribal Center Education Association, Inc., Keweenaw Bay Tribal, Baraga, MI 49908, telephone: 906/353-6740 (for students of American Indian descent).

Scholarship Search, 1775 Broadway, New York, New York (write for information).

Student Aid Bulletin—Scholarships Offered By Labor Unions, (Morania, New York 13118: Chronicle Guidance Publications; $2.00 prepaid) (available in the Macomb County Community College Library).

Student Guide to Economic Survival, Financial Aid Rights Organization (available from the National Student Educational Fund, Suite 305, 2000 P Street N.W., Washington, D.C. 20035; telephone: 202/785-1856).

Student Financial HELP, A Guide to Money for College, Louis and Joyce Scaringi (available in the Macomb County Community College Library).

The Student Aid Annual, (Morania, New York 13118: Chronicle Guidance Publications; $7.50 prepaid) (available in the Macomb County Community College Library).

Veterans Education and Training Service (VETS), 1620 Eye Street N.W., Washington, D.C. 20006 (telephone: 202/293-4900).

Where and How to Get Money For College, A Guide to Financial Aid for Students and Parents, Joyce Lain Kennedy (Yonkers, New York: Suburban Features, Inc., 1975) (available in the Macomb County Community College Library).

FOR YOUR INFORMATION

Residency Policy

For the purpose of this policy, a Macomb County resident is defined as any individual who resides within the Community College District of the County of Macomb at the time of registration.

Macomb County Property owners who reside outside of the Community College District of the County of Macomb will not be afforded the resident rates.

Tuition rates for resident or non-resident students enrolled under letters of understanding or agreement with approved third parties (resident corporations and/or resident employer and employee associations) shall be no less than resident tuition rates for regular college offerings and no less than actual costs for "special" programs or courses developed to meet designated needs. Rates for this category of students will not be paid individually but will be billed to the third party under whose auspices such students are enrolled. These letters of understanding or agreement (company letters) must be presented at the timte of registration. These letters will not be accepted afterward for reassessment purposes.

Misrepresentation of residency is subject to disciplinary action by the college. Students will be required to show evidence of residency at the time of each registration. Documents such as a driver's license, utility bills, rent receipts, and other appropriate evidence may be required as proof of residency.

In implementing the above policy, the following additional definitions should be utilized:

Out-Of-State Resident: Any individual who is residing outside the State of Michigan at the time of registration.

Foreign Students: Any alien lawfully admitted for permanent residence in the U.S. who has obtained his permanent visa, and his wife or minor children who have met the other requirements of the college for residence may register as residents of the State or County. Individuals admitted to the U.S. under a student or temporary visa shall be defined as foreign students and assessed as such.

Decisions regarding residency may be appealed to the Associate Dean of Student Services, Campus Auxillary Services, on either campus.

Tuition and Fees

Tuition is subject to change without prior notice.

Tuition and fees are payable in full at the time of registration. Students will be required to show proof of residence at the time of registration in order to take advantage of resident rates.

TUITION

Resident of Macomb County per credit hour	$14.50
Non-resident of Macomb County per credit hour	$27.00
Non-resident of Michigan per credit hour	$37.00

FEES

Registration Fee	$5.00 - This fee is non-refundable
Late Registration Fee	$5.00

Course fees, ranging from $5 to $30 are charged for some courses. These fees are listed in the schedule for courses which require them and must be paid at time of registration.

Registration fee – If a student registers at more than one campus, the registration fee need only be paid once.

Tuition Refund Policy

Tuition refunds are made after a student completes the proper forms available in the Registration Area, or at the Information Counter, G-312. Refunds will be mailed directly to the student approximately six weeks after the Change of Elections period.

Tuition and course fees will be refunded according to the following schedule:

Classes dropped as a result of college action	100%
Late Registration Fee	No Refund
Registration Fee	No Refund

REFUND POLICY—FULL SEMESTER COURSES (16 Weeks) & FULL TRIMESTER COURSES (15 Weeks)

Full or partial tuition refunds for FULL semester courses (16 weeks) and FULL trimester courses (15 weeks) will be made in accord with the calendar dates shown in the Schedule of Classes.

REFUND POLICY—COURSES RUNNING 14 WEEKS OR LESS

The following formula will be used to grant refunds to students who withdraw from classes scheduled to meet for fourteen weeks or less:

100%	Through the first day of class
75%	Through the first day after the class begins
50%	Through the second day after the class begins for withdrawal from the class only.

The above policy is reflected in the refund schedule shown below:

First Day Class Meeting	100%	75%	50%
Monday	Monday	Tuesday	Wednesday
Tuesday	Tuesday	Wednesday	Thursday
Wednesday	Wednesday	Thursday	Friday
Thursday	Thursday	Friday	Monday
Friday	Friday	Monday	Tuesday
Saturday	Monday	Tuesday	Wednesday

SPECIAL REFUNDS

Students who must withdraw after the end of the change of elections as a result of Selective Service induction, reserve call-up, hospitalization, or prolonged illness will be eligible for a 75 percent refund of tuition and course fees. Requests for special refunds must be made in writing to the Cashier's Office and accompanied by appropriate documentation.

Students required to withdraw from classes as a result of mandatory shift change at their place of permanent employment are eligible for a 50 percent refund of tuition and course fees if the withdrawal occurs prior to mid-term, and 25 percent after mid-term.

Disclosure of Information

(For the entire position statement of Macomb County Community College pursuant to the Family Educational Rights and Privacy Act of 1974 see **Procedure: Confidentiality of Student Records** in the **Schedule of Classes.**)

Appropiate student records may be disclosed without the student's prior consent in connection with the student's application for, or receipt of, financial aid. (99.30d)

Pursuant to Section 7 of the Privacy Act of 1974, applicants for student financial assistance are hereby notified that mandatory disclosure of their Social Security Number is required by Macomb County Community College to verify the identity of each applicant. Social Security Numbers are used in processing the data given in the financial aid application; in the awarding of funds; in the coordination of information to be reported to the Federal and State governments; and in the collection of funds and tracing of individuals who have borrowed funds from Federal, State, College, or private loan programs.

Student Information Maintained in the Financial Aid Office

Upon proper identification, a currently enrolled student has the right to inspect and review official records, files, and data directly related to the student as a student. This right extends to former students.

Copy of Federal Income Tax Form 1040*
Parent's Confidential Statement (PSC)*
Financial Aid Form (FAF)
Application for Education Aid
Notice of Financial Aid Award
Student Affidavit of Educational Purpose
Financial Aid Contract
Financial Aid Worksheet (need analysis)
Telephone Conversation Reports with Financial Aid Office
Promissory Note
College Service Corporation Collection Agency Forms
Employer Evaluation of Work-Study Students

*Students do not have access to the Parent's Confidential Statement or Federal Income Tax Form 1040 contained in their Financial Aid Folder as this information is deemed a record of the parent, unless this right to privacy has been waived by the student's parent(s).

Statement of Compliance

Macomb County Community College, in compliance with Titles VI and VII of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, and the Rehabilitation Act of 1973, does not discriminate on the basis of race, creed, color, national origin, mental or physical handicaps, age or sex in any of its policies, practices, or procedures. This includes, but is not limited to admissions, employment, financial aid, educational services, programs, and activities.

FINANCIAL AIDS WHO'S WHO

SOUTH CAMPUS DIAL 779-7228

Karl J. Wagner, Dean of Student Services	H305-4	779-7192
Margaret MacTavish, Associate Dean of Admissions, Registration & Financial Aids.	G301-1	779-7184
Karen Rexin, Financial Aid Office, Technician	G312	779-7244
Virginia Masters, Financial Aid Office, Clerk	G312	779-7228

Counseling Office

Benjamin J. Shumaker, Associate Dean Counseling and Placement	H311-8	779-7201

Office of Veteran Affairs

Rick Cunningham, VA On-Campus Representative	G312	779-7248
Tom Dean, VA On-Campus Representative	G312	779-7248
Emlyn K. Thomas, Coordinator for Veterans Affairs	G312	779-7256

CENTER CAMPUS DIAL 286-7715

Eugene Gaswiler, Dean of Student Services	H120	286-8000	EXT 203
Charles W. Dennis, Associate Dean of Admissions, Registration & Financial Aids.	G150	286-8000	EXT 280
Dennis Brovont, Financial Aid Office Technician	G152	286-8000	EXT 292
Vera Conway, Financial Aid Office, Clerk	G157	286-7715	

Counseling Office

Dorothy Savage, Associate Dean Counseling and Placement	G124	286-8000	EXT 278

Office of Veterans Affairs

Jim Colton, VA On-Campus Representative	G145	286-8000	EXT 291
Dick Stevens, Coordinator for Veterans Affairs	G145	286-8000	EXT 291

CLOSING THE MONEY GAP
Part III

Financial Aid Programs

Macomb County Community College

"Financial Aid Programs" *is the third part of* **"Closing the Money Gap: A Financial Aid Information Packet."** *It contains descriptions of specific financial aid programs to help you understand their award limits, eligibility requirements, repayment procedures (for loans), where to apply or get information, and other special features that help describe these programs.*

"Closing the Money Gap" *is made up of other important information:*

Part I—Take These Steps to Apply for Your Share of Financial Aid. *If you follow the steps outlined in this booklet, you will be assured of full consideration for financial assistance at Macomb County Community College.*

Part II—Everything you Always Wanted to Know About Financial Aid *answers many of your questions about the* whys, hows, *and* wherefores *of financial aid. It would give you a basic understanding of this complex system.*

In addition, it has been designed to provide you with most of the applications you will need and other brochures that pertain to available financial aid. Our aim has been to provide you with essential, understandable and complete information. Nonetheless, information "gaps" may still exist. If you do need any additional information, you are welcome to call or visit our financial aid offices.

DIAL 779-7228 - SOUTH CAMPUS
14500 Twelve Mile Road, Warren, MI 48093

DIAL 286-7715 - CENTER CAMPUS
16500 Hall Road, Mount Clemens, MI 48043

The preparation of these materials was partially supported by a grant from the Fund for the Improvement of Postsecondary Education.

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NORTH AMERICAN INDIANS (1/2 quantum blood), residents of the State of Michigan for not less than 18 consecutive months, graduates of a high school, and enrolled full-time in a public community or junior college, college, or university, are eligible for free tuition. (Act No. 174, Public Acts of 1976, State of Michigan) Contact the College Financial Aid Office for more information.

PERSONS 60 YEARS OF AGE OR OLDER and residents of Macomb County are eligible for FULL TUITION GRANTS for any course offered Macomb County Community College, full library privileges, and other special services. CONTACT THE ADMISSIONS OFFICE FOR MORE INFORMATION.

BEOG - Basic Educational Opportunity Grant

Federal Government
(1975-76: $417,105 South Campus, $282,318 Center Campus)

WHAT'S THE PURPOSE OF THE PROGRAM?

Provides funds to students to enable them to enroll in post-high school institutions (including colleges, universities, vocational-technical schools, business colleges, and hospital schools of nursing). Grants normally cover up to 4 years of study leading to a first degree and are usually the first component of all financial aid packages. A student applying for financial aid at MCCC must also apply for a BEOG.

HOW MUCH ARE THE AWARDS?

- *Awards are determined according to an "eligibility index" and by the level of Federal appropriations available. (For information on the method used, write to: BEOG, P.O. Box 84, Washington, D.C. 20044. Ask for a copy of "Basic Grant Eligibility".)*
- *No award may exceed ½ the cost of education, or $1,400, whichever is less.*
- *During the 1975-76 school year, awards ranged from $50 to $1,400 (at MCCC $100 to $1,125).*

WHO CAN RECEIVE THIS MONEY?

Any student who:

- *is a U.S. citizen or who has made a formal declaration of intent to become a citizen; and*

- *is enrolled in at least ½ - time (6 hours per semester) study.*

HOW MUCH DO I HAVE TO PAY BACK?

NO REPAYMENT IS REQUIRED

HOW DO I APPLY?

Directly to BEOG.
Applications are available from:

- *Basic Grants*
  P.O. Box 84, Washington, D.C. 20044
- *your high school counselor*
- *Financial Aid Office*
  Macomb County Community College

College Administered Scholarships, Loans & Grants

Private Donors

WHAT'S THE PURPOSE OF THE PROGRAM?

Macomb County Community College administers numerous privately endowed scholarships, loans and grants. It is the *college's policy that all students completing the MCCC Application for Financial Aid and who demonstrate financial need be automatically considered for any applicable scholarship, loan or grant. In many cases, Federal law requires that these funds be awarded before resorting to any federal program.*

A complete list of these college administered financial aid funds is available in the Financial Aid Office.

HOW MUCH ARE THE AWARDS?

Awards range up to $1,000

WHO CAN RECEIVE THIS MONEY?

Any student who:

- *is a U.S. citizen or who has filed a declaration of intent to become a citizen; and*
- *is enrolled in at least a ½ - time (6 credit hours per semester) program; and*
- *has applied to Macomb County Community College for financial aid.*

HOW MUCH DO I HAVE TO PAY BACK?

DEPENDS ON PARTICULAR PROGRAM

HOW DO I APPLY?

Financial Aid Office
Macomb County Community College
(All students applying for financial aid are automatically considered. See "Take These Steps To Apply for Your Share of Financial Aid".)

CWSP - College Work-Study Program

Federal Government
(1975-76 funding: $55,000 South Campus,
$5,600 Center Campus)

WHAT'S THE PURPOSE OF THE PROGRAM?

CWSP is a college administered program in which the Federal Government makes grants to institutions to create job opportunities for their eligible students. It assists students who are in need of the earnings from part-time employment in order to meet college related expenses. Students participating in CWSP normally work 20 hours per week (maximum of 40 hours per week) while attending classes, and may work up to 40 hours per week during vacations and summers. The work schedule will be suited to the needs of the student and the employer. Sources of work for Macomb County Community College students are generally on-campus employment, although employment may be for a public or nonprofit private organization serving the public interest.

HOW MUCH ARE THE AWARDS?

- *Payments to students participating in the program range between the minimum wage of $2. 20 per hour and a maximum of $3.50 per hour, depending on the nature of the job.*

- *The amount of the award will depend upon student need and the number of hours worked but will not exceed student need.*

- *In cooperative education, the student may alternate terms of full-time employment with terms of classwork.*

WHO CAN RECEIVE THIS MONEY?

Any student who:

- *is a U.S. citizen or who is in the U.S. for other than a temporary purpose; and*
- *is enrolled in at least ½ - time (6 hours per semester) study; and*
- *is capable of maintaining good academic standing while employed.*

HOW MUCH DO I HAVE TO PAY BACK?

NO REPAYMENT IS REQUIRED

HOW DO I APPLY?

Contact the College Financial Aid Office.
(All students applying for financial aid are automatically considered.)

GI Bill

Chapter 34, Title 38, of the United States Code
Vietnam-Era Veterans Readjustment Assistance Act of 1974
(PL 93-508)
Federal Government

WHAT'S THE PURPOSE OF THE PROGRAM?

The purpose of this entitlement program is to provide financial assistance for the educational training of servicemen and women returning to civilian life.

HOW MUCH ARE THE AWARDS?

	Number of Dependents			
	Single	*Married*	*2*	*each additional*
Full-time	*$292/mo.*	*$347/mo.*	*$396/mo.*	*$24/mo.*
3/4 - time	*$219/mo.*	*$260/mo.*	*$297/mo.*	*$18/mo.*
1/2 - time	*$146/mo.*	*$174/mo.*	*$198/mo.*	*$12/mo.*
	Apprenticeship On-the-Job Training			
1st 6 mo.	*$212/mo.*	*$238/mo.*	*$260/mo.*	*$11/mo.*
2nd 6 mo.	*$159/mo.*	*$185/mo.*	*$207/mo.*	*$11/mo.*
3rd 6 mo.	*$106/mo.*	*$132/mo.*	*$154/mo.*	*$11/mo.*
4th and succeeding 6 months.	*$ 53/mo.*	*$ 79/mo.*	*$101/mo.*	*$11/mo.*

- *Length of benefits depends on length of service, based on 1½ months of benefits for each month of active duty and payable up to a maximum of 45 months (providing you served 18 months on active duty.*

- *The same benefits are available for completion of high school or special preparation courses for college. These benefits are not subtracted from the total college entitlement.*

- *Benefits must be used within 10 years of date of discharge.*
- *$65 per month, up to a maximum of $780, is available for special tutoring while you are enrolled in college.*

WHO CAN RECEIVE THIS MONEY?

- *You must have served with the Army, Navy, Marines, Air Force, or Coast Guard, and received an honorable or general discharge.*
- *Continuous active duty of at least 181 days is required, unless service was terminated by a service-connected disability.*
- *School must be approved by the Veterans Administration.*

HOW MUCH DO I HAVE TO PAY BACK?

NO REPAYMENT IS REQUIRED
GI BILL BENEFITS ARE TAX FREE

HOW DO I APPLY?

College Office of Veterans Affairs
OR
Veterans Administration Regional Office (under U.S. GOVERNMENT in the telephone directory).

Veterans are eligible for guaranteed loans up to $1500 per year with the same interest benefits and deferment provisions as the Guaranteed Student Loan Program. For details contact the College Office of Veterans Affairs.

LEEP-Law Enforcement Education Program Grants & Loans

Federal Government
(Macomb County Community College - Center Campus only)

WHAT'S THE PURPOSE OF THE PROGRAM?

LEEP provides financial assistance in the form of grants and loans to students for higher education which will contribute to the development of human resources needed by the criminal justice system to reduce crime and delinquency. Financial need doesn't have to be demonstrated to receive these funds.

HOW MUCH ARE THE AWARDS?

GRANTS - Up to $250 per quarter or $400 per semester for tuition, fees and books.

LOANS - To a maximum of tuition, fees and books or $2,200 per year, whichever is less.

(Both grants and loans up to a maximum of two years' assistance toward a B.A. or higher degree.)

WHO CAN RECEIVE THIS MONEY?

LEEP funds are available to students who:

- *are U.S. citizens or who are permanent residents; and*
- *enrolled in a course of study related to law enforcement; with the following special requirements:*

Continued on P. 6

Michigan Competitive Scholarship Program

State of Michigan
(1976-77 Macomb County Community College:
105 1st - year applications, 36 scholarships granted-
$14,710 total, average scholarship $409;
25 continuing scholarships granted-
$2,552 total, average scholarship $502)

WHAT'S THE PURPOSE OF THE PROGRAM?

The Competitive Scholarship Program provides financial assistance for students attending an eligible Michigan school and demonstrating both financial need and academic potential. Academic potential is based on performance on the National ACT Exam: the program is limited to high school graduates who achieve a semi-finalist score on the ACT.

HOW MUCH ARE THE AWARDS?

Competitive Scholarship Awards range from $100 to $1,200 but are limited yearly to:

- *the amount of demonstated financial need, or*
- *the school's tuition, or*
- *$1,200 ,*

whichever is least.

- *Awards are annually renewable for up to eight semesters or 12 terms of undergraduate study.*

- *Consideration is limited to eight academic years following high school graduation or selection as a semi-finalist if this should occur after graduation.*

WHO CAN RECEIVE THIS MONEY?

Any high school graduate who:

- *is a US citizen or who has filed a declaration of intent to become a citizen; and*
- *has been a continuous Michigan resident from January 1 of the year preceeding the academic year of application; and*
- *has achieved a semi-finalist score on the ACT Exam; and*
- *has demonstrated financial need according to the College Scholarship Service's FAF (or PCS) statement; and*
- *is enrolled full-time (12 or more credit hours per term) in a eligible public or private Michigan college or university.*

HOW MUCH DO I HAVE TO PAY BACK?

NO REPAYMENT IS REQUIRED

HOW DO I APPLY?

Contact high school guidance office
OR
College Financial Aid Office
OR
Michigan Department of Education
Student Financial Assistance Services
Box 30008
Lansing, Michigan 48909
(telephone: 517/373-3394)

Grants are available only to students who:

- *are enrolled in at least ½ - time (6 hours per semester) study; and*
- *are in-service law enforcement officers (those already working with police, correction, or court agencies) and who agree to remain in full-time criminal justice employment for a period of two years following completion of study.*

Loans are available only to students who:

- *are enrolled in full-time (12 hours per semester) study; and*
- *are employed in, or intend to enter, a law enforcement career, although preference is given to police and corrections personnel on academic leave from their agencies.*

HOW MUCH DO I HAVE TO PAY BACK?

No repayment of grants is required if the recipient fulfills the two-year service obligation. Grant recipients who terminate full-time criminal justice employment or course of study before serving the required two-year service obligation must begin repayment of grants.

- *repayment will include 7% simple interest per year;*
- *minimum payments of principal and interest are $50 per month, payable quarterly, with the repayment period not to exceed 10 years;*
- *repayment begins the first day of the month after terminating criminal justice employment.*

Loans can be canceled for service as a full-time officer or employee of a law enforcement and criminal justice agency at the rate of 25% per year of the total loan plus interest. A student employed full-time as a criminal justice employee receives employment credit toward cancelation of his/her loan.

If the student ceases to be a full-time student and is not employed by a criminal justice agency, repayment is required:

- *repayment begins 9 months after terminating full-time study;*
- *repayment will include 7% simple interest per year;*
- *minimum payments are $50 per month ($150 per quarter, payable quarterly) with the repayment period not to exceed 10 years.*

Installments do not have to be paid and no interest will be charged during any period:

- *in which the student is a member of the U.S. Armed Forces, to a maximum of 4 years; or*
- *in which the borrower continues as a full-time student (12 hours per semester).*

HOW DO I APPLY?

Contact the College Financial Aid Office.

Michigan Guaranteed Student Loan Program

A joint endeavor of the government and private banking community

WHAT'S THE PURPOSE OF THE PROGRAM?

Students may obtain long term, low-interest (7% simple interest) educational loans from private lenders, which are guaranteed by the government against the borrower's death, permanent disability or default. These loans can be used at any educational institution and are not limited to Michigan.

HOW MUCH ARE THE AWARDS?

Current maximum allowable loan limits:*

	Undergraduate	*Graduate*
Full-time	*$1,500*	*$2,500*
3/4 - time	*$ 975*	*$1,875*
½ - time	*$ 750*	*$1,250*

**Adjustments will raise undergraduate maximums to the graduate level.*

The maximum total for undergraduate study is $7,500, increased to $10,000 if study continues to the graduate level.

If the student's family adjusted gross income is less than $15,000 and the loan request is for less than $2,000, he/she is eligible for Federal Interest Benefits (the federal goverment pays interest on the loan while the student is in school or in an eligible deferment category).

If the adjusted gross income is greater than $15,000 or the loan request is for more than $2,000, need must be demonstrated by submitting a financial statement and going through needs analysis.

WHO CAN RECEIVE THIS MONEY?

Any student who:

- *is a U.S. citizen or intends to become a permanent resident; and*
- *is enrolled in at least a ½ - time (6 credit hours per semester) program.*

HOW MUCH DO I HAVE TO PAY BACK?

Repayment begins 9 months after graduation or leaving school.

The student must pay at least $360 per year over a 5 to 10 year period and may be required to pay an insurance premium of not more than ½% per year on the unpaid balance.

Deferment (repayment is temporarily waived and no interest is charged) is available during any period:

- *up to 3 years of service as a Peace Corps or VISTA volunteer or in the Armed Forces of the U.S.*
- *of full-time study (full-interest will be paid by the government if the student was eligible for interest payment at time loan was granted).*

Partial cancellation of the loan is possible in certain cases where the student enters a health profession and practices in a "shortage area".

HOW DO I APPLY?

Participating local bank.
OR
College Financial Aid Office for information.
OR

For further information and list of lending institutions, write to:

Guaranteed Student Loan Program
Michigan Department of Education
Student Financial Assistance Services
Box 30008
Lansing, MI 48902
(telephone: 517/373-0760)

Michigan Tuition Grant Program

State of Michigan
(Macomb County Community College students are not eligible for Tuition Grants)

WHAT'S THE PURPOSE OF THE PROGRAM?

The Tuition Grant Program attempts to minimize the difference in cost normally found between Michigan's public and independent colleges, so that students are able to make their choice based on program characteristics alone and not the differences in cost. Students who do not qualify for the Competitive Scholarship and intend to enroll in an independent college should apply for a Tuition Grant.

HOW MUCH ARE THE AWARDS?

- *Tuition Grant Awards range from $100 to $1,200 and each award is limited yearly to:*

  - *the amount of demonstrated financial need, or*
  - *the school's tuition, or*
  - *$1,200 ,*

whichever is least.

- *Awards can be renewed yearly up to a maximum of:*
  - *8 semesters or 12 terms of undergraduate study, and*
  - *6 semesters or 9 terms of graduate study*
- *Summer awards are allotted to prior award recipients if funds permit. These awards do count as a semester or term of program eligibility.*

WHO CAN RECEIVE THIS MONEY?

Any student who:

- *plans to enroll in a full-time (12 or more credit hours per semester) program at one of Michigan's eligible independent colleges; and*
- *is a U.S. citizen or has filed a declaration of intent to become a citizen; and*
- *has been a continuous Michigan resident from January 1 of the year prior to the year of planned enrollment; and*
- *has demonstrated financial need according to the College Scholarship Service FAF (or PCS) form.*

HOW MUCH DO I HAVE TO PAY BACK?

NO REPAYMENT IS REQUIRED

HOW DO I APPLY?

Contact high school counselor
OR
College Financial Aid Office
OR
Michigan Department of Education
Student Financial Assistance Service
Box 30008
Lansing, Michigan 48909
(telephone: 517/373-3394)

Michigan Veterans Bonus

State of Michigan

WHAT'S THE PURPOSE OF THE PROGRAM?

The Veterans Bonus is a one-time flat rate supplement to existing veterans benefits.

HOW MUCH ARE THE AWARDS?

- *Eligible veterans who received either the Vietnam Campaign Medal or the Armed Forces Expeditionary Medal can receive a lump sum payment of $600.*
- *Other eligible veterans not awarded either medal can receive $15/month for each month served, to a maximum of $450*

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WHO CAN RECEIVE THIS MONEY?

Any honorably discharged Michigan Veteran who:

- *was an established Michigan resident 6 months prior to entry into the armed forces; and*
- *who served between January 1, 1961, and May 7, 1975; and*
- *who served at least 190 days of active service.*

HOW MUCH DO I HAVE TO PAY BACK?

NO REPAYMENT IS REQUIRED.

HOW DO I APPLY?

College Office of Veteran Affairs
OR
Veterans Administration Regional Office (under U. S. GOVERNMENT in the telephone directory)

Michigan War Orphans Act

Michigan Public Act 245
State of Michigan

WHAT'S THE PURPOSE OF THE PROGRAM?

The Michigan Veterans Trust Fund provides funds to institutions for the waiver of tuition and fees for eligible students in Michigan tax-supported institutions. Macomb County Community College is such an institution. (Students eligible under this act are probably also eligible for benefits under Federal Public Law 634 or 88-361 (War Orphans' Act) and vice versa.)

HOW MUCH ARE THE AWARDS?

Waiver of tuition and fees applicable to the student until his or her 23rd birthday.

WHO CAN RECEIVE THIS MONEY?

Any student who:

- *is the daughter or son of a wartime veteran who died or was disabled due to service connected causes; and*
- *is between 16 and 22 years of age; and*
- *has been a resident of the State of Michigan for 12 months.*

HOW MUCH DO I HAVE TO PAY BACK?

NO REPAYMENT IS REQUIRED

HOW DO I APPLY?

Directly to: Michigan Veterans Trust Fund/Board of Trustees
3500 North Logan
Lansing, MI 48913
(517/373-3130)

Applications available from Financial Aid Office, MCCC

NDSL-National Direct Student Loan

Federal Government
(1975-76 funding: $309,083 South Campus
($167,250 actually distributed), $27,450 Center Campus)

WHAT'S THE PURPOSE OF THE PROGRAM?

A college administered program through which students who need financial assistance to follow full- or half-time study may receive long-term, low-interest loans. The repayment period and the interest do not begin until nine months after the student completes his or her studies. NDSL loans are usually awarded as part of a financial aid package. Upon approval of the loan, the student signs an "Affidavit of Educational Purpose" and a promissory note.

HOW MUCH ARE THE AWARDS?

- *Loans for college-related expenses up to a total of $10,000 for all years of undergraduate, graduate, and professional study.*

- *Not more than $2,500 for the first two years of full-time study.*

- *Funds are disbursed evenly over academic terms (semester system—½ each term).*

WHO CAN RECEIVE THIS MONEY?

Any student who:

- *is a U.S. citizen or who has made a formal declaration of intent to become a citizen; and who*

- *is enrolled in at least ½ - time (6 hours per semester) study.*

HOW MUCH DO I HAVE TO PAY BACK?

- *In an exit interview you agree to repayment (monthly, bi-monthly, quarterly) at not less than $30 per month ($360 per year).*

- *Interest of 3% per year is charged during the repayment period.*

- *Repayment begins 9 months after termination of full- or half-time study and may continue over a 10 - year period.*

- *Installments do not have to be paid and interest will not be charged during any period:*

  - *in which you enroll at least ½ - time at an approved institution of higher education; or*

  - *not longer than 3 years in which you serve in the United States Armed Forces or ACTION.*

- *Installments do not have to be paid but interest will be charged during any period:*

  - *not longer than 3 years in which you enroll for less than ½ - time in degree credit courses; or*

- of exceptional circumstances prohibiting you from making payments.

- *NDSL loans can be cancelled:*
  - *up to 50% of the loan, at the rate of 15% per year of service full-time in a Head Start program.*
  - *up to 100% of the loan, at the rates of 15%, 15%, 20%, 20% and 30% during the first 5 years of service as a full-time teacher in a:*
    - *public or nonprofit elementary or secondary school designated as having a high concentration of students from low-income families; or in a*
    - *public or nonprofit elementary or secondary school for handicapped children.*
  - *up to 50% of the loan at the rate of 12½% for each complete year of consecutive active service in the U.S. Armed Forces.*

HOW DO I APPLY?

Contact the College Financial Aid Office.

(All students applying for financial aid are automatically considered. The "Application for NDSL funds" must be filled out after the initial offer has been made.)

Nursing Student Loan & Scholarship Program

Federal Government
(Macomb County Community College - Center Campus only)

WHAT'S THE PURPOSE OF THE PROGRAM?

The Nursing Student Assistance Programs aid students who need financial assistance to pursue a course of study leading to a diploma, associate degree, baccalaureate or equivalent degree, or graduate degree in nursing.

HOW MUCH ARE THE AWARDS?

- *Nursing Loans are limited to a maximum of $2,500 per year, or the amount of the student's financial need, whichever is least.*
- *The maximum total of loans for all years is $10,000.*
- *Nursing Scholarships are limited to a maximum of $2,000 per year, or the amount of the student's need, whichever is least.*
- *The combined maximum of nursing loans and scholarships is $4,000 per year.*

WHO CAN RECEIVE THIS MONEY?

Any student who:

- *is a U.S. citizen or intends to become a permanent resident; and*

- *for loans, is enrolled in at least a ½ - time (6 credit hours per semester) professional program; or*

- *for scholarships, is enrolled in a full-time (12 credit hours per semester) professional program; and*

- *demonstrates exceptional financial need (i.e., requires assistance to pursue the particular course of study).*

HOW MUCH DO I HAVE TO PAY BACK?

NO REPAYMENT IS REQUIRED OF NURSING SCHOLARSHIPS

Nursing Loans carry a 3% per year interest rate beginning with the repayment period, 12 months after leaving full-time or ½ - time student status. In an "exit interview" the student agrees to a repayment plan of a minimum of $15 per month over a maximum of 10 years.

Deferment provisions (repayment is temporarily waived and no interest is charged) are available during any period:

- *up to 3 years as a Peace Corps or VISTA Volunteer; or*

- *up to 3 years as a member of a uniformed service (Army, Navy, Marine Corps, Air Force, Coast Guard, National Ocean Survey, U.S. Public Health Services); or*

- *during periods of advanced professional training.*

Cancelation of Nursing Loans (or any other educational loan for the costs of nurse training) is possible if you enter into an agreement with the Secretary to serve as a full-time professional registered nurse for a continuous period of at least 2 years in an area designated as having a shortage of and need for nurses.

- *the rate of cancellation is 30%, 30%, and 25% for each of the 1st 3 years of full-time professional employment (a total of 85% of the loan can be cancelled in this way)*

- *if you fail to fulfill the provisions of the agreement, you must repay all payments made in your behalf.*

Cancellation of Nursing Loans for professional Nurse employment:

- *if you work full-time as a registered nurse in a public or non-profit private agency, institution, or organization, up to 85% of any nursing loans may be cancelled at the rate of 15%, 15%, 15%, 20%, and 20% for the first five years of such employment.*

(See "Guide for Repayment, Deferment, and Cancelation of Nursing Student Loans", DHEW Publication N. (NIH) 73-430)

HOW DO I APPLY?

College Financial Aid Office

Social Security Educational Benefits

Federal Government

WHAT'S THE PURPOSE OF THE PROGRAM?

Under the Social Security Act there is a special provision for continuation of Social Security benefits for eligible students while they are enrolled in full-time study.

HOW MUCH ARE THE AWARDS?

- *The amount depends on benefit eligibility as determined by the Social Security Administration.*
- *Social Security benefit checks continue during vacation periods that do not exceed 4 months in length.*
- *However, $1 in Social Security student benefits is withheld for every $2 earned in excess of $2760.*

WHO CAN RECEIVE THIS MONEY?

Any student who:

- *is the unmarried child of a retired, disabled (as defined by the Social Security Administration), or deceased worker receiving or eligible for Social Security benefits; and*
- *is enrolled full-time (usually 12 or more credit hours) in an accredited institution (MCCC is an accredited institution); and*
- *is under 22 years of age.*

HOW MUCH DO I HAVE TO PAY BACK?

NO REPAYMENT IS REQUIRED

HOW DO I APPLY?

Directly to your Social Security Office (listed under U.S. GOVERNMENT in the telephone book)

SEOG-Supplemental Educational Opportunity Grant

Federal Government
(1975-76 funding: $54,798 South Campus
$10,200 Center Campus)

WHAT'S THE PURPOSE OF THE PROGRAM?

SEOG grants provide payments to students of exceptional financial need to enable them to complete their undergraduate educations. These grants must be awarded as part of a financial aid package.

HOW MUCH ARE THE AWARDS?

- *The amount of the grant in any school year may be as low as $200 but cannot exceed $1,500 or ½ the financial aid received from the institution, whichever is less.*
- *Total payments can't exceed $4,000 for a 4 - year program or $5,000 for a program longer than 4 years leading to a first degree.*
- *The grant must be matched by an equal amount from other financial aid sources.*

WHO CAN RECEIVE THIS MONEY?

Any student who:

- *is a U.S. citizen or who has made a formal declaration of intent to become a citizen; and*

- *is enrolled in at least ½ - time (6 hours per semester) study; and*

- *whose family contribution is less that ½ the cost of education.*

HOW MUCH DO I HAVE TO PAY BACK?

NO REPAYMENT IS REQUIRED

HOW DO I APPLY?

Contact the College Financial Aid Office.

(All students applying for financial aid are automatically considered).

VRS Assistance - Vocational Rehabilitation Services

Vocational Rehabilitation Services
State of Michigan

WHAT'S THE PURPOSE OF THE PROGRAM?

Vocational Rehabilitation provides assistance for the vocational training and education of individuals with physical or mental disabilities. Emphasis is placed upon serving the severely disabled applicant. Financial assistance with training programs is based upon the student's financial need.

HOW MUCH ARE THE AWARDS?

The Vocational Rehabilitation Service (VRS) will contribute 50% of the student's unmet financial need in the form of a grant under an agreement in which the college provides the remaining 50%.

The amount of the grant varies but never exceeds $1,700 per year.

WHO CAN RECEIVE THIS MONEY?

Eligibility for Vocational Rehabilitation Services is determined by the VRS office and is based on the existence of a physical or mental disability which results in a substantial handicap to employment.

VRS assistance applicants must:

- *apply for financial aid at the college they plan to attend;*
- *apply for a BEOG grant;*
- *complete the Michigan Competitive Scholarship Examination; and/or*
- *apply for a Tuition Grant from the State of Michigan.*

HOW MUCH DO I HAVE TO PAY BACK?

NO REPAYMENT IS REQUIRED

HOW DO I APPLY?

The closest VRS District Office (under MICHIGAN STATE GOVERNMENT-EDUCATION DEPARTMENT heading in the telephone directory)
OR

Department of Education
Vocational Rehabilitation Service
Box 1016
Lansing, Michigan 48094
(telephone: 517/373-8000)

War Orphans Assistance Program

Federal Public Laws 634 and 88-361
Federal Government

WHAT'S THE PURPOSE OF THE PROGRAM?

This program provides funds for the education of children, wives, and widows of veterans who died or were permanently and totally disabled as a result of service in the armed forces. Funds may be used at a wide variety of educational institutions, including colleges, universities, and vocational schools.

HOW MUCH ARE THE AWARDS?

- *The size of the award is the same as under the GI Bill:*

Full-time	*$292/month of attendance*
3/4 - time	*$219*
1/2 - time	*$146*
Less than ½ - time	*limit of established tuition and fees*

- *Benefits are available for a maximum of 36 months.*

WHO CAN RECEIVE THIS MONEY?

- *Eligibility is determined by the Veterans Administration.*
- *Generally, children (between ages 18 and 26), wives, and widows of veterans who died or were permanently and totally disabled as a result of service in the armed services.*

HOW MUCH DO I HAVE TO PAY BACK?

NO REPAYMENT IS REQUIRED

HOW DO I APPLY?

College Office of Veteran Affairs
OR
Veterans Administration Regional Office (under U.S. GOVERNMENT in the telephone directory)

CLOSING THE INFORMATION GAP:
A PROGRAM AND EMPLOYMENT INFORMATION PROSPECTUS
FOR
MACOMB COUNTY COMMUNITY COLLEGE
1976-77

THE PREPARATION OF THESE MATERIALS WAS PARTIALLY SUPPORTED BY
A GRANT FROM THE FUND FOR THE IMPROVEMENT OF POSTSECONDARY EDUCATION

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CLOSING THE INFORMATION GAP?

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BEFORE YOU GO ANY FURTHER . . .

Some students are aware of their educational goals before they begin post high school educational programs. Others look to job advancement in an occupation where they are presently working. These students are often, however, in a minority: too many decide to pursue a program on the basis of incomplete or inaccurate information, and many simply don't know much about the jobs they would like to have.

The occupational picture

Perhaps what's common to most of us is that we don't have a clear conception of the entirety of the occupational alternative we are (or would like to be) pursuing--what does a person in this particular job really do? what skills are required? what are the chances for advancement? where can training be pursued and how good will that training be? will jobs be available and where to look for them? what is the normal salary range? and what are the alternative employment areas and possibilities?

To make good and timely decisions, to understand your alternatives and maximize your chances for success, you should begin your career exploration and preparation early and systematically.

What this publication is all about . . .

This publication, Closing the Information Gap: A Program and Employment Information Packet, has been developed to help you make better decisions about post high school education and provide you with some unique information about Macomb County Community College. In it you will find a skeleton of information that expands on the kind that is normally published in the college catalog. Closing the Information Gap is made up of the following sections:

- PART I--Does College Really Matter?
- PART II--Matching Interests and Abilities to Career Areas
- PART III--Programs: Macomb County Community College
- PART IV--Index of Courses and Costs
- PART V--Glossary of Commonly Used Words

- PART I--Does College Really Matter?

My family has always wanted me to go to college, but is that reason enough?

In this first section, we discuss some of the personal and monetary benefits commonly thought to be associated with college attendance.

- PART II--Matching Interests and Abilities to Career Areas

Which program might be best for me?

Certainly, an important factor in career choice is the match between a particular job and you. To help in your initial career exploration we have provided a system to help you determine which occupational areas match your abilities and interests. You will ask yourself questions about your abilities, interests, temperament, and values, and although you will not find answers to your questions overnight, such early self-exploration can help you reach an ultimately satisfying occupational choice.

- PART III--Programs: Macomb County Community College

Occupational information...
Which program? what courses do I take?
How much will it cost me?
What happens to graduates?

Occupational information. . .

Before you make a choice from among the many different educational and training alternatives that are open to you, you should have some information concerning the occupations for which that training claims to prepare you. Is specialized training necessary to enter the occupation you are interested in? We recommend that you look into the training requirements of the occupation of your interest before you begin a program. What kind of employment does the program lead to? What do workers do? how and where do they do it? You should have information about employment trends in the area of your interest. Will there be strong competition for jobs? What will it be like when you enter the labor market in one, two, four or more years? And you should have a realistic idea of the relative salary you might expect.

The first section of PART III, "Occupational Information in a Nutshell," provides you with the name of a primary job (or jobs) that this program might be associated with in the world of work. We also give you some information about the nature of work for this particular job, national, state, and local employment trends, and an estimate of beginning salaries.

Which program? what courses do I take?
How much will it cost me?

Once you have decided to pursue further training, some questions you will want to consider are: How long will the training take? What does this training consist of? How much training is necessary? A primary goal should be to avoid locking yourself into an unrewarding or unfulfilling occupation or to have to back off and start all over again in order to fulfill the requirements of the occupation you were really interested in to begin with. There are many alternatives: you should try to choose a next step in the general direction of your interests, leaving as many doors open as possible.

And in terms of time and money, post high school training may be one of the most expensive investments you will have made to date. Accurate cost information will also be very important to you. What are the costs associated with attending MCCC? Are there hidden costs that you should be aware of? What will your direct (out-of-pocket) costs be?

The second section of PART III, "Program Requirements and Costs," outlines the minimum requirements for certificates and degrees for the different occupational programs offered by Macomb County Community College, and provides you with an estimate of the total cost of tuition, fees, required and recommended texts, and supplies by course and program.

What happens to graduates?

The third section of PART III, "1974-75 Graduate Employment Report

Summary", summarizes the employment experiences of recent Macomb County Community College graduates so that you will have some idea of how its graduates fare once they leave college and look for employment in the world of work.

- PART IV--Index of Courses

Because there is such a wide variety of possible course combinations that meet the broad requirements for graduation, we have provided an index of courses offered by the college along with estimates of the total cost of tuition, fees, required and recommended texts, and supplies. By using the worksheet that is included in the Index, you will be able to estimate the cost of your own particular program.

A last word . . . almost . . .

We hope that in planning your education and deciding on a program of study at Macomb County Community College (or, for that matter, at some other post high school institution) you will now have some initial exposure to career information and some idea of what you might expect in the world of work once out of school.

But remember, this information is limited (we used the word skeleton to describe it). It can't substitute for more systematic research and questioning on your part and advice from trained counselors. Our goal has been to fill part of the initial information void most students confront when looking through the typical college catalog. The next steps are up to you . . .

PART I

DOES COLLEGE REALLY MATTER?

- Without that degree, son, you're gonna end up poor . . .

The growth of higher education over the last several decades has brought about some curious ideas in the United States about the value of education in our society. You have probably heard on many occasions and in various ways that college graduates get better jobs and earn more money than non-college graduates. Some estimates put total life-time earnings at $250,000 more for college graduates as opposed to those who never go to college. Many parents believe that their children will be failures unless they get a college degree, or that the only good education is one capped by four years of college.

Although you may have heard these things, you may not have given them much thought. But now you are thinking of continuing your education, and in light of the cost in terms of time, effort, and money, you are wondering: Does college really matter?

We do not have a definitive answer to this question, but in the next few pages we will present some pros and cons about going to college. We believe that in the final analysis the pros will outweigh the cons, but you be the judge.

- **Economics only . . .?**

Certainly, the investment you contemplate in further education may profoundly affect your future; it may also be one of the most expensive you will have made to date. But today how true is it that without that degree you're going nowhere? Will the investment of your time and money be worth it? Your family may have always expected you to go to college, but is that reason enough? Some facts may surprise you:

- Unprecedented numbers of college graduates are employed in jobs that require little or no college training.
- The financial return on the college investment--the interest you earn on the total of your college related expenses plus foregone earnings*--has been estimated to have dropped from 11-12% in 1969 to 7-8% in 1974. That interest rate is hardly much better than alternative forms of investment.
- Since 1969, starting salaries for male college graduates with social science or humanities degrees have fallen 23%.
- 33% of the male and 67% of the female college graduates are employed in positions unrelated to their college major.
- By 1980, it's estimated that there will be an annual surplus of 140,000 college graduates to professional and managerial job openings, the traditional occupational slot of the college educated.
- Even if college graduates earned a 14% return on their investment, about 1/3 would still earn less than the 1/3 most successful high school graduates who never went to college.**

---

*Foregone earnings are described in PART III--Programs: Macomb County Community College; see page 35 .

**The statistics in this section have been drawn heavily from Richard B. Freeman's recent work. See The Overeducated American (New York: The Academic Press, 1976).

It's not at all surprising, after the popularization of the cash return analysis and considering these circumstances, that many students are demanding more than conventional answers. They wonder, perhaps for the first time, whether a college education is worth the investment of time, money, effort, and sacrifice.

The first question that you should ask is: Is the financial return on your investment the only--or even the most important--benefit to be expected from a college education? Should you expect, as you may have been promised, higher earnings as a guarantee for going to college?

It may be legitmate to hope that a college education will open more doors to better jobs and higher income. When we look at the different opportunities open to graduates who are adaptable and have acquired the basic skills applicable to a wide variety of jobs, it appears to be true. However, on the rocks of an economic downturn and a tight job market, it's obvious that a university degree is not always the magic key to economic well-being and a guarantee of success in the world of work. Some of the magic is gone. College graduates aren't automatically guaranteed prestige or power. Nor does a college diploma in and of itself guarantee you (or anyone) a high paying job. Clearly, a mistake is made in equating higher education solely with lifetime earnings or other measures of economic returns. What we are trying to suggest is that the benefits of education--and even the costs--do not stop with the inputs or outputs which are measurable in purely economic terms.

- Beyond economics only . . .

To dwell solely on the economic test of the value of education is also to ignore the ways in which our American society has traditionally valued education. Philosophers, statesmen, educators, and other citizens alike have seen in advanced education a good, a value, something subjective and nonquantifiable, but something certainly to be strived for both individually and collectively. Advanced education, it is believed, has been a source of inspiration, renewal and innovation in our society, and it is precisely this belief that generates support for education on all levels of our community.

The tradition runs from earliest times, through the founding of the nation, and on into the present century. Thomas Jefferson championed "a general diffusion of knowledge" to safeguard a democratic society, to help in the realization of self-government, and to protect against the rise of a new pseudo-aristocracy. One of the benefits of education was seen to be in the promotion of social equality; another in the maintenance of democratic ideals; and others in a wide range of personal benefits.

What are these personal benefits? They take many forms and mean something different to each individual. Many college students identify such reasons for attending as:

- to gain a general education
- to meet new and interesting people
- to become more cultured
- to pursue personal self-development
- to obtain a good job and develop skills that will enhance employability

The Carnegie Commission, in its study A College Degree and What Else, found that college graduates have:

- steadier and more satisfying employment throughout their working lives
- significantly lower unemployment rates
- longer vacations and more fringe benefits
- greater personal and family stability
- more participation in social and political life

Elsewhere, the Commission identifies advantages such as being a better consumer, being able to budget time and money better, and the enhancement of cultural and other experiences over the person's lifetime.

Studies in the social sciences suggest that college attendance produces long-lasting changes in attitudes and behavior--the way in which people feel and act. And a college education has been associated with smaller families, greater voter participation, and secondary benefits in the "at home", informal education of children.

Yet, despite these suggestive benefits, there is no definitive answer. There is an American infatuation, as we pointed out earlier in the myth of economic prosperity, in that jackpot at the end of the educational rainbow--those pragmatic returns to education. But, as Robert M. Hutchins has said, "Learning, or education, cannot be defended as a means to anything beyond itself." Is the United States rich and powerful because of its educational system or in spite of it? Can a person appreciate art, literature, or music only (or any better) after having received a college diploma? Is literacy a prerequisite to economic development? Much as we try to do otherwise, our answers today would at best be maybe. The feeling behind these questions and our traditional support for education, of course, derive from our belief in it.

- The college graduate . . .

The college graduate will be at a disadvantage in some occupations that require specialized on-the-job training and be confronted with competition in others. It doesn't mean that college graduates face massive unemployment; they still have much greater chances of obtaining high-level professional and managerial jobs than do nongraduates; but many of them will have to accept second-choice jobs. But remember, in times of more applicants than jobs, large numbers of employers use the college credential as a screening device. The result is that college graduates are being hired in preference to non-college graduates. Your economic advantage with the degree may be less, but your disadvantage without it may be comparatively greater.

Herein lies the dilemma: you may be underemployed if you go to college, or you may be unemployed if you don't go to college and have no skills.

- What this means to you . . .

There are no simple answers or proscriptions for your future. With anything as personal as your life goals and future work, generalizations are not meaningful. Still, some possible strategies to keep in mind might be:

- Be cautious of claims and suspicious of "guarantees" for continued education or training of any sort.
- Know yourself and examine your alternatives. Talk with family, friends, and trained counselors.
- Ask questions: How do graduates of particular programs fare once they graduate and enter the world of work? What can I expect from the school that I choose? How much will it really cost me? What are my chances of receiving financial aid if I need extra money for college? How long will the training take? What next steps will I be prepared to take?
- Keep your options open as long as possible and be prepared to change to a new and better career if the opportunity presents itself.

Ultimately, of course, you will have to carefully weigh your own reasons for continued education. A college education has assumed such great prestige that often we assume that it is the only form of continued learning. Yet, as the world becomes more complicated, as the problem of getting jobs and the nature of those jobs becomes more complex, education, or continued learning of some sort, will certainly matter. Your stature as an individual and value as a member of society are both dependent in large part upon continued learning, though not necessarily schooling, throughout life.

While you are not guaranteed anything should you receive a diploma, we are confident that the pursuit of an education which would enable you to apply fundamental training and learning to a wide range of specific jobs is a defensible and worthy goal. The ultimate justification for continued education, perhaps, is in its ability to enhance the quality of your life. There are many paths you might follow--Macomb County Community College is only one of them.

- Postscript . . . Life offers you neither guarantee nor certainty. Education cannot be far behind. It does not always guarantee a job or impress a potential employer. But look a step further: advancement, promotion, and responsibility go to the flexible individual prepared to adapt and handle changing situations. Education may only give you a clue as to where you are going. But at the very least it should make life much more interesting than it otherwise would be.

PART II

MATCHING INTERESTS AND ABILITIES TO CAREER AREAS

Throughout your life you will make many decisions about careers and jobs. The process of making these decisions is sometimes called career development. Two things will be important to you in this process: First, whatever decisions you make must be yours. If you do not accept responsibility for your own decisions, you will find that other people or circumstances will make them for you. Second, you will need good information about the various choices available to you. Many people make important decisions about their careers or jobs on the basis of very little knowledge. They soon discover that they are unhappy about their work and begin looking for a change. Often, such changes are expensive in terms of time and money, and emotional stress. Yes, it is human to err, but sometimes costly, especially if the chance for error could have been minimized with good information.

Take a look at yourself

Ask yourself questions about your abilities, interests, temperament, and values. What do you do easily and well and what do you do painfully and poorly? Have you had any special achievements? Do you enjoy working with ideas, people, data, or things. What kind of work would you like to do? What kinds of goals are you setting for yourself?

The first step in the process of making a decision about your future career or job choice is to learn something about your occupational interests and abilities. Your occupational choice will be a good one if you are satisfied with your job and your employer is satisfied with you as a worker. Two factors are very important in predicting how suitable and satisfied you will be for a particular job: your interests and your abilities.

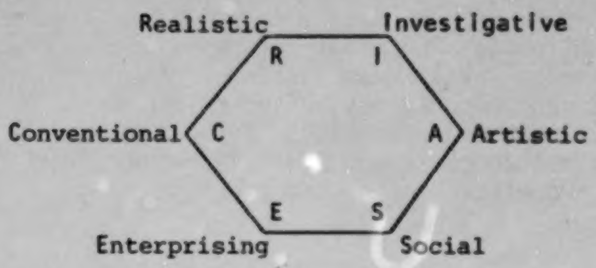
You can learn much about these two factors through properly used and interpreted standardized tests. Such tests will help clarify your thinking about occupations. Although there are many different kinds of standardized tests, two types can be of particular importance to you: aptitude tests and interest inventories.

- Aptitude tests — These are designed to measure your skill or potential for learning in one or more areas, such as mechanical comprehension, manual dexterity, reading and numerical ability.

- Interest inventories — These are designed to measure your interest in broad occupational or career fields. It should be noted that such inventories cannot predict performance in an occupation; they only measure broad interests. For example, you might be interested in being a mechanical engineer, but if you lack the necessary ability in mathematics, you will probably not be able to do the work of a mechanical engineer.

• A model of vocational interests

John Holland, professor at Johns Hopkins University, has found, after considerable research, that a person's vocational interests can be categorized into six major areas in the specific and hexagonal order shown below, and, further, that matching these interests with jobs is usually important to job satisfaction.



R

Realistic: This interest grouping stresses a liking for physical activity and a general avoidance of social activities. Occupations of plumber, machinist and draftsman are representative of those with a high "R" score.

I

Investigative: The basic interest here is analyzing, thinking through problems, being creative in ideas. The "I" interest grouping is best exemplified by activities such as are engaged in by physicians, pharmacist, researchers, and scientists.

A

Artistic: The major interests in this "A" category are in musical, artistic, literary, and dramatic activities. The activities of cartoonists, decorators, and newspaper reporters, for example, are representative of this interest category.

S

Social: The major interest in the Social grouping is in being with and around others on a job, helping others, or working in an area which directly affects people. Typical job areas for those with a high "S" interest include counseling, social services, teacher, community center work.

E

Enterprising: The Enterprising "E" group of people enjoy leadership, management, and sales activities, and generally fit best into occupations such as stockbroker, salesman, manager.

C

Conventional: The major interests of this group involve completion of details, forms, and reports most often related to business and economics. Typical "C" jobs include court reporter, secretary, data processor, income tax specialist.

The area that most accurately describes your personal interests or the combination of your two or three most preferred interest areas best predicts the job area you would likely find most enjoyable.

Holland indicates that a consistent pattern (and, therefore, the most reliable predictor) is one in which your major interest and secondary interests are in sequential order on the hexagon. He has found, however, that if your major interest is not immediately flanked by secondary interests, you may have some difficulty finding an occupation that suits you until you have had further experience. For example, if you chose Artistic, Enterprising, and Conventional [AEC], in that order, the theory would indicate that you may have some difficulty finding the right kind of job, since the interest areas are somewhat unrelated to each other and few jobs have that particular pattern. On the other hand, a consistent and more likely pattern for finding a satisfactory job would contain the interests Investigative, Artistic, and Social [IAS].

To use this model of vocational interests, select three areas which you think best define your own interests and write down the Holland Code letters. List the Holland Code letter for your most preferred area first, your next most preferred area second, and your third most preferred area last. Now check your code letters against those found below. You will note that under your code are listed one or more jobs and a page number. Turn to the given page and you will find information on the job or jobs with your code, the MCCC program requirements and costs for training related to that job or jobs, and the record of some MCCC graduates who have completed that particular program. For example, if you find that your Holland Code is RIA, checking below you will find under RIA the occupation of architectural drafter and a reference to page 100. Turning to that page you will find information on the job of architectural drafter, requirements and costs for the Architectural Drafting program offered at South Campus, and graduate employment information for graduates of the 1974-75 period.

Of course, many other jobs too numerous to have listed in this publication could have the same Holland Code. If you are interested in exploring in more depth occupational alternatives by using the Holland system, we refer you to The Self Directed Search, by John L. Holland, Phd., available at the Career Resource Centers in the counseling offices of Macomb County Community College.

R - REALISTIC OCCUPATIONS

CODE: RIA

Architectural Drafter------ p. 100

CODE: RIE

Auto Body Designer Drafter- p. 104
Aviation Mechanic---------- p. 107
Machine Operator----------- p. 134
Numerical Control/ Tool Programmer---------- p. 138
Design Drafter------------- p. 147
Tool Designer-------------- p. 152

CODE: RIC

Fluid Power Technician----- p. 120
Lithographic Press Operator----------------- p. 142
Radio and TV Service Technician--------------- p. 145
Composing Room Worker (Printing)-------- p. 155

CODE: RIS

Welder----------------- p. 157

CODE: RSE

Firefighter----------- p. 164
Police Officer--------- p. 168
Food Services Supervisor----------- p. 172
Security Worker/ Manager-------------- p. 176

CODE: REI

Air Conditioning/ Heating Mechanic----- p. 114
Industrial Supervisor----------- p. [illegible]

CODE: RCI

Surveyor--------------- p. 149

I - INVESTIGATIVE OCCUPATIONS

CODE: IRE

Electronics Technician------ p. 117

CODE: ISR

Medical Laboratory Technician--------------- p. 47

CODE: ICR

Computer Operator---------- p. 68
Metallurgical Technician--- p. 132
Quality Control Technician--------------- p. 136

CODE: IRC

Crime Laboratory Technician----------- p. 162
Laboratory Technician-- p. 166
Computer Programmer---- p. 68
Civil Engineering Technician----------- p. 111
Metallurgical Technician----------- p. 132

A - ARTISTIC OCCUPATIONS

CODE: AIS

Commercial Artist-------- p. 123
Interior Design---------- p. 123

CODE: AIR

Photographer------------ p. 124
Lithographic Worker----- p. 142
Camera Operator--------- p. 142
Lithographic Artist----- p. 142
Stripper---------------- p. 142
Plate Maker------------- p. 142

S - SOCIAL OCCUPATIONS

CODE: SIA

Nurse (R.N.)------------ p. 51

CODE: SIR

Medical Office Assistant-------------- p. 49
Respiratory Therapist---- p. 55

CODE: SRI

Veterianarian Technician------------ p. 57

CODE: SIC

Recreation Worker------- p. 174

CODE: SAI

Dental Assistant-------- p. 44
Practical Nurse--------- p. 53

E - ENTERPRISING OCCUPATIONS

CODE: EAS

Para-legal Technician---- p. 91

CODE: ESC

Salesworker------------- p. 84
Administrative Secretary------------- p. 75

CODE: ECS

Buyer------------------ p. 84
Real Estate Worker------ p. 93

C - CONVENTIONAL OCCUPATIONS

CODE: CIE

Clerk Typist------------ p. 71

CODE: CSI

Bookkeeping Worker------- p. 63

CODE: CES

Accountant-------------- p. 63

CODE: CIS

Certified Public Accountant------------ p. 63

CODE: CSA

Medical Secretary------- p. 89
Secretary--------------- p. 75
Library Assistant------- p. 170

CODE: CSE

Receptionist------------ p. 71
Legal Secretary--------- p. 82

Another way to consider which occupation or occupations might be suitable to you is to match your personality traits with characteristics of various jobs. Some people enjoy working with ideas, while others prefer working with detailed information; some prefer working with things, others with people.

- Job Characteristics The Job Profile Analysis Chart below lists 19 job characteristics and their definitions and matches them with 34 representative occupations. This "matching" is fairly rough, because not all jobs within a given occupational area are necessarily the same. If you are interested in a particular occupation which seems to have some job characteristics you like, find out more about the occupation. One source for this kind of information is the Occupational Outlook Handbook, published

JOB PROFILE ANALYSIS CHART

Source: U.S. Dept. of Labor

Two extra spaces are provided for you to fill in the characteristics for other jobs you might be interested in.

	Accountant	Advertising Worker	Agricultural Engineer	Architect	Automotive Mechanic	Barber	Carpenter	Cashier	Chef	Commercial Artist	Dental Assistant	Dentist	Draftsman	Electrician	Forester	Insurance Agent	Janitor	Machine Tool Operator	Meat Cutter	Mechanical Engineer	Medical Lab Technician	Nurse (RN)	Personnel Worker	Photographer	Physician	Plumber	Police Officer	Radio/TV Service Tech	Rehabilitation Counselor	Secretary	Social Worker	Statistician	Truck Driver	X-ray Technician	Other	Other
1. High level of responsibility				●								●			●						●		●		●		●		●					●		
2. Competitive		●		●												●								●												
3. Requires physical stamina					●		●							●	●		●	●	●							●	●						●			
4. Works with detail	●		●	●				●		●		●	●			●		●		●	●	●	●	●	●		●	●		●		●		●		
5. Work produces tangible product			●	●	●		●			●		●		●		●		●		●				●	●	●		●		●						
6. Opportunity for self-expression		●	●	●						●		●								●				●	●							●				
7. Generally confined to work area	●				●	●		●			●		●					●	●		●			●						●		●	●			
8. Motivates others		●								●						●															●					
9. Overtime or shift work required		●							●	●		●				●					●	●			●		●		●				●	●		
10. Work is closely supervised								●		●	●		●				●				●	●					●			●				●		
11. Directs activities of others			●	●					●						●					●			●						●		●					
12. Exposed to weather conditions							●							●	●												●						●			
13. Repetitious work	●					●		●			●							●	●											●						
14. Helping people				●		●			●		●	●				●						●	●		●		●	●	●		●			●		
15. Working with ideas	●	●	●	●						●			●							●				●				●				●				
16. Working with people						●		●			●	●				●						●	●		●		●		●		●					
17. Working with things					●		●		●					●	●		●	●	●		●					●		●		●			●	●		
18. Works independently	●			●	●			●				●		●	●			●	●					●	●	●	●	●		●				●		
19. Works as part of a team		●	●				●		●	●	●		●	●			●			●	●	●	●						●		●		●			

by the U. S. Department of Labor, Bureau of Labor Statistics. You might ask workers in the occupation about the kind of work they do. Check out libraries, guidance offices, and guidance counselors--don't forget your family and friends--or obtain information from Macomb County Community College's Career Resource Centers. You may discover that some of the jobs in that general occupational area are just what you'd be interested in.

- Your abilities . . . Besides understanding your interests and the job characteristics that appeal to you, you should also have a good estimate of your abilities. One way to analyze your abilities is to make a list of the jobs you have done well; another is to identify the leisure time activities that you enjoy and do well; another, if you are a recent high school graduate, is to make a list of the subjects in which you did well; and still another is to use standardized tests properly administered and interpreted by a qualified counselor. A counselor can also help you to relate your interests and abilities to specific occupations which can then be translated into a course of study in the occupational area you ultimately wish to pursue.

- Level of training . . . Another consideration in making an occupational choice is level of training. Some jobs provide all the training needed on the job while others require a doctorate or a professional degree. Training for certain occupations requires as little as a few hours, others may require several years.

The following table is provided to help you gain a better understanding of level of training. As you study it, keep in mind that the length of training is approximate. For example, if you go to school full time and do not interrupt your enrollment, you will probably finish in the time indicated on the table. However, if you attend part-time or take an occasional semester off, it will take you more time to finish than indicated.

LEVELS OF TRAINING

LEVEL	DESCRIPTION (including representative degrees)	APPROXIMATE LENGTH OF TRAINING
On-the-job training(OJT)	Specific skill training offered by employer to employee.	Varies with job. Generally less than 6 months.
Certificate (Vocational-Technical)	Program designed to prepare students for entry level occupations. Training emphasizes the applied and practical aspects of the job, supplemented with minimal theoretical course work.	1-2 years.
Associate degree (Voc-Tech & College transfer)	This degree is offered by community and junior colleges and some 4-year colleges. Some of the programs are directly related to occupations; other associate degree programs are designed to provide transfer credits to 4-year programs. (Associate of Arts: AA)	2 years
Apprenticeship	These registered programs in the skilled trades include practical and theoretical training. The apprentice is paid a percentage of journeyman's wages during training. Theoretical work may be done in a college.	2-5 years
Bachelor's degree	Academic program designed to provide skills for entry level occupations in a wide variety of professional and technical occupations. (Bachelor of Arts: BA; Bachelor of Science: BS)	4 years
Master's degree	Academic program with more specific and intensive training for employment in entry level and advanced employment level occupations. (Master of Arts: MA; Master of Science: MS; Master of Social Work: MSW; Master of Business Administration: MBA)	1-2 years full time, post-bachelor.
Doctorate	Academic- and research-based training geared to employment in upper-level management, research, professional occupations. (Doctor of Philosophy: PhD)	3-4 years post-master's.
First profession	Training for professions such as Medicine, Dentistry, Veterinary Medicine, Theology, Law, etc. (Doctor of Osteopathy: DO; Doctor of Medicine: MD; Doctor of Dental Surgery: DDS; Doctor of Veterinary Medicine: DVM; Doctor of Theology: ThD; Doctor of Divinity: DD; Doctor of Law: LLD, JD; Bachelor of Law: LLB)	3-4 years post-basic training

In order to determine what level of training is sufficient, you should find out both the minimal level of acceptable training for the job of your choice and the actual level of training an employer feels is necessary or that is usual for the geographical area in which you would like to work. For example, a one-year certificate in accounting may be sufficient for employment as a bookkeeper, but may not be sufficient for the firm or the area in which you might want to work.

At Macomb, determining the level of training is relatively easy--all programs are at the certificate or associate degree level and are therefore one to two years in length for the full-time student.

- Assessing job trends . . .

In addition to knowing something about your interests and abilities and how they relate to certain occupations, it is also important to know what the employment trends are for those occupations.

It is one thing to have an idea of what the current employment picture is like--you can talk to people, read the papers, or study current employment/unemployment statistics. It is quite another thing to predict the future job market because such predictions are generally made on the basis of a growing economy. Circumstances such as major strikes, foreign relations. recessions and energy problems have an effect on the local and national economy, and consequently on the job market of the future.

In spite of the difficulties and uncertainties it is still important to consider job trends. To help you we have provided employment information for jobs frequently obtained by MCCC graduates. This information is in Part III of this booklet under the title "1974-75 Graduate Employment Report Summary . . ." In addition, on p. 42 we have provided the most recent U.S. Department of Labor employment projections for a large group of occupations. You can quickly see that many occupations will be growing rapidly while others will be declining. If you find you are interested in a declining occupation, you should think carefully about your choice because although you might find a job in such an occupation, it could be a long search and very competitive.

- **A word about college graduates . . .** The U. S. Department of Labor predicts that during the first half of the 1980's there will an excess of 4-year college graduates. This, of course, does not mean that there will be widespread unemployment of people with bachelor's degrees.

In fact unemployment among such graduates is lower than the general population. It may mean, however, that some persons with bachelor's degrees will have to take second-choice jobs. They will also face keen competition from graduates of community colleges and other post-secondary schools who have been trained for certain technical and para-professional jobs. Along these lines, it is interesting to note that the U. S. Department of Labor predicts that by 1985 only one-fourth of all job openings will require four or more years of college. This means that opportunities for workers with less than a bachelor's degree will be extensive and varied.

- **Women-Workers . . .** One very evident fact in the American work force is the changing role of women. The 1970 census reveals that, for the first time since World War II, women have begun to make significant moves into careers which have been male-dominated.

Recruiters are actively seeking out and hiring qualified women for employment in accounting, business, civil service, computer science, health professions, engineering, construction and skilled trades, protection service occupations such as guards and police officers, and management.

Legislation and changing attitudes have made significant strides in equal employment opportunity. As more and more barriers to training and employment are removed, increasing numbers of women are expected to enter careers previously dominated by men.

Many women wishing to enter the work force are confronted with fear and self-doubt. They ask questions such as: What job? What kind of training? Where should I get the training? Am I too old? What about my young children? To be sure these are challenging questions. Designed to assist women to find the answers, the Women's Resource Center of the college provides individual and group counseling, testing, referrals, workshops and conferences.

- The next step . . .

Where you go from here is up to you. You might turn to Part III of Closing the Information Gap, which discusses program requirements and costs, employment trends, and graduate employment or discuss your plans with a friend, a teacher, a parent, or a counselor. Or maybe you just want to think some more. In any case, you've got the ball! If you need help running with it, the following services are available to you at Macomb County Community College:

- Career Resources Center - Information on occupations, careers and employment trends.

  Center Campus: 286-8000
  South Campus : 779-7211

- Counseling - Help in making decisions about careers, training and personal problems.

  Center Campus: 286-8000
  South Campus : 779-7211

- Financial Aid - Information and assistance for persons needing money in order to attend college.

  Center Campus: 286-8000
  South Campus : 779-7228

  Ask for a copy of Closing the Money Gap: A Financial Aid Information Packet.

- Michigan Occupational Information System - Computerized and microfilmed occupational information.

  Center Campus: 286-8000
  South Campus : 779-7228

- Placement - Employment assistance while attending college and after graduation.

  Center Campus: 286-8000
  South Campus : 779-7229

- Special Needs Program - Focuses on persons coming to college who may have special educational needs or who may have handicaps requiring more individual attention.

  Center Campus: 286-8000
  South Campus : 779-7420

- Veteran's Information Center - Information on services available to veterans.

  Center Campus: 286-8000
  South Campus : 779-7256

- Women's Resource Center - Special services for women.

  South Campus: 779-7417

PART III

PROGRAMS: MACOMB COUNTY COMMUNITY COLLEGE

Macomb County Community College is a comprehensive, multi-campus, two-year public institution created by the citizens of Macomb County to provide for their diverse educational, cultural, and social needs. By its very nature, the college has a committment to providing a variety of options for its students, although a principal educational effort on its part is directed toward the more practical and applicable aspects of higher education. It is also an open-door institution: all students who can benefit from higher education are admitted. There are opportunities for part-time and full-time study, and for occupational or liberal arts education. You might earn a one-year certificate, two-year associate degree, prepare for transfer to a four-year institution, or combine several or all of these alternatives.

Before you go any further . . .

In an effort to provide you with better and more useful information about the college, in the next few pages you will find a general analysis of the occupational programs offered by Macomb County Community College. Each occupational program offered by the college has been analyzed in terms of the following three general areas:

- Occupational Information
- Program Requirements and Costs

- Graduate Employment Report Summary

However, before you rush head-long into these program descriptions, we strongly recommend that you take special note of the following shortcomings and explanations of the data used in these analyses. These *grains of salt* should help you to better interpret and understand the information provided in this section of *Closing the Information Gap*.

You will find a copy of the college's catalog, called *Macomb County Community College 1976-77 Academic Catalog*, a very useful companion to *Closing the Information Gap*. It contains detailed information about courses, academic requirements and policies, special programs and services.

SOME GRAINS OF SALT: Occupational Information

- *Where did this information come from?*

The information in this portion of the program analysis was gathered from these principal sources: *Direction: Michigan Career Opportunity Guide*; U. S. Department of Labor, Bureau of Labor Statistics; the *Occupational Outlook Handbook, 1976-77 Edition*; the *Occupational Outlook Quarterly*; Michigan Employment Security Commission (MESC); SEMLCC Regional Placement Office publications and projections; and the files of the Career Resources Center, Macomb County Community College. These are also sources that you might use if you are interested in more information.

- What's included? The information in this section is arrayed in three different parts: nature of work; employment trends; and estimated salary. We have chosen to describe the occupation (or occupations) most directly implied by a given program. However, workers can qualify for jobs in a variety of ways, and there is no guarantee that graduates of particular programs will be able to secure jobs in the occupations described.

The intent was to fill that initial information void that most students confront when looking through the college catalog. We make a tentative connection between the training you might consider with the world of work after graduation. Obviously, this information cannot be a substitute for comprehensive career counseling, but, in any case, you should find it useful to you in your early career exploration if you keep in mind the following things.

- What do workers do? The Nature of Work section briefly describes the kinds of skills and specialized activities related to that area of work. Although this job description may be generally typical of the occupation, it's likely that there will be wide variance in duties by employer, geographic location, and other factors.

- What's the future of this occupation going to be like? The section entitled Employment Trends lists the employment trends for those jobs for which such information was available. By and large, they are national long-range trends projected over a period of years; but we have also tried to reflect current and projected employment in the Detroit area and the state of Michigan, where most of this school's graduates will look for employment. You may find the following table helpful to you in understanding the words used to describe job opportunities.

Job opportunities	Prospective demand-supply relationship
Excellent	Demand much greater than supply
Very good	Demand greater than supply
Good or favorable	Rough balance between demand and supply
May face competition	Likelihood of more supply than demand
Keen competition	Supply greater than demand

[Source: Occupational Outlook Handbook, 1976-77 Edition]

- The problems with predictions . . . No one can accurately or with certainty predict the future. Many factors are involved, such as changes in the number of job seekers and the number of job openings, the kinds of occupational choices made by others, new inventions and technological innovations, the rate of economic growth, the evenness or unevenness of that growth, the amount and kinds of materials and energy available, national defense expenditures, and so on.*

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*Assumptions. The [Bureau of Labor Statistics's] projections to 1985 are based on the following general assumptions:

The information in this section should be used carefully. The prospect of strong competition for jobs, or of relatively few openings, in a field that interests you should encourage you to take a second look at your career choice. But this information alone should not discourage you from pursuing a particular career if your interests and abilities justify your goal.

- A word about the public service sector . . . Future employment in the public service sector (government employment) depends in large part on the economic solvency of municipal, state, and federal governments. Although the need for such jobs may grow, the ability of the public sector to subsidize this growth may not. Many local governments, for example, have had to cut back services in recent years.

The institutional framework of the U. S. economy will not change radically.

Current social, technological, and scientific trends will continue, including values placed on work, education, income and leisure.

The economy will gradually recover from the high unemployment levels of the mid-1970's and reach full employment (defined as 4 percent unemployment) in the mid-1980's.

No major event such as widespread or long-lasting energy shortages or war will significantly alter the industrial structure of the economy or alter the rate of economic growth.

Trends in the occupational structure of industries will not be altered radically by changes in relative wages, technological changes, or other factors. (Occupational Outlook Handbook, 1976-77 Edition, Bureau of Labor Statistics: Washington, D. C., p. 11)

- A few do's and don'ts

Don't rule out a potentially rewarding career simply because the outlook in the occupation is not favorable. Do check further. Do discuss your abilities, aptitudes and interests with a counselor, and do analyze your alternatives. You may be able to take peripheral or related training without losing your momentum and with little or no extra expenditure of time.

- What this means to you . . .

The changing job scene requires of you, especially in times of uncertainty, two things:

- that you prepare yourself occupationally as well as possible to compete with others for the jobs of your choice, and
- that you avoid making too narrow a choice too soon--that is, keep your options open as long as possible, and be prepared to enter a new or different job if and when the opportunity arises.

- How much do workers earn?

Estimated Salary. This section of PART III indicates, unless otherwise specified, average earnings for the occupation listed. Depending on the source and type of job being described, these earnings are specified as hourly, weekly, monthly, or yearly. You should note that some of these figures are now several years old, and are, of course, somewhat lower than current average wages, but they provide a relative basis for comparing the earning potential of different occupations. Remember, too, that many levels of pay exist within each occupation. Beginning workers almost always earn less than those who have had more work experience. And earnings vary considerably by geographic location and many times depending on the industry surveyed, as well. Because of these factors, you should check with counselors and employers for more specific and up-to-date information about earnings.

SOME GRAINS OF SALT: Degrees and Program Requirements

Both of the college campuses provide a range of programs and courses in three Divisions--General Education, Occupational Education, and Continuing Education.

- South Campus South Campus offers courses and programs designed to allow students the option of completing the first two years of a Baccalaureate Degree* or in a variety of occupational programs in business (9) and industrial technology (22). In addition, the Department of Applied Technology offers 37 major curricula for apprenticeable and similarly skilled occupations.

- Center Campus Center Campus also offers courses and programs designed to allow students the option of completing the first two years of a Baccalaureate Degree* and also a variety of occupational programs in allied health (7), business (6), and the public service professions (9).

The following degrees and certificates are conferred at Macomb

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*It is emphasized that students planning to transfer credits to four-year colleges or universities should make an appointment with a counselor at an early point in their study at MCCC. Some institutions may not allow the transfer of credit for certain courses.

County Community College:

- Associate of Arts Degree
- Associate of Applied Science Degree
- Associate of General Studies Degree
- Certificate in Applied Science
- Certificate in General Studies
- General Education Certificate in the Behavioral Sciences

[Degree/certificate requirements follow Grains of Salt on page 40.]

SOME GRAINS OF SALT: Program Costs

- Where did this information come from?

The amounts in this portion of the program analysis were gathered from a survey of all courses listed in the 1976-77 Academic Catalog and by reviewing their required and recommended text lists in the Macomb County Community College bookstores.

- Some amounts are underestimates

However, it was not possible to estimate the total costs for many courses because of the nonavailability of certain information at the time of publication. In these cases, we have noted that the total is an underestimate but have totaled tuition and fees so that a minimum amount would be readily available. Nevertheless, you should be aware that for many courses the cost could be substantial for such things as: art and drafting supplies, gym equipment, use fees, fieldwork expenses, tools, special equipment, photography supplies and equipment, and so on.

- How you can estimate costs for your program

Due to the wide variety of course combinations possible in the completion of General Education requirements, it was not possible to estimate this component of program costs. However, we have provided you with an index of courses and their costs so that you might estimate the costs of your particular program. Just look up the courses that interest you in the Index and add their costs to the known estimates for your particular program.

- Some courses are part of a sequence

Many courses form part of a sequence. If text and equipment or materials were required in an earlier course, they were not included in the total estimated cost of the second, third, fourth or later course in that sequence, the assumption being that the student would have purchased these materials earlier.

- Some indirect but nevertheless very real costs. . .

One last word about costs. In your thinking about the cost of the training you are considering, don't lose sight of the concept of what we call "foregone income". This refers to wages you might otherwise earn were it not for the fact that you have chosen to attend college. You may quit a full-time job, or give up overtime, or reduce your working hours. It would be difficult for us to estimate foregone income for you because we do not know about your individual circumstances. But even if you have never worked before attending college, the presumption is that you will nevertheless forego some income since you could work for at least minimum wages. If you would like to calculate income you might forego (an indirect cost to you because of your decision to go to college) and compute very roughly how long it will take to make up these lost wages in a new occupation, you might use the following formula:

We ask that you please remember that this formula can only give you a very crude and rough estimate of your foregone income costs. Many variables are involved--such things as wage changes, employment opportunities, job advancement, increased years of wage earning, personal satisfaction, leisure time, and so on--, and economists normally use a complicated mathematical model to make these kinds of estimates. Still, this may be very important information for you.

- Formula for computing foregone income

$$T = \frac{[(W_1 - W_2) \cdot n] - W_s \cdot t}{W_3 - W_1}$$

Key

- W_1 = weekly wage before enrollment
  or
  $92 (weekly minimum wage, 40 hrs. @ $2.30/hr
- W_2 = weekly wage while in school
- W_3 = weekly wage expected after graduation
- W_s = weekly summer/vacation wages
  or
  $92 (weekly minimum wage)
- n = number of weeks of training (normally 36 per academic year)
- T - time (weeks) needed to make up foregone wages
- t = weeks of summer/vacation work (normally 8 to 12 per academic year)

EXAMPLE

- Jo is a high school graduate who has worked part-time at the minimum wage. However, one of his/her former employers has said that s/he could work full-time at a weekly wage of $125. [$W_1$ = $125, W_s = $92]

- Jo enrolls full-time in the Legal Secretarial program at MCCC but finds that he/she can only work 10 hours per week at the minimum wage. [W_2 = $23]

- Jo estimates that his/her salary after graduation will be approximately $150. The program takes approximately 2 academic years to complete. [W_3 = $150, n = 72, t = 16]

$$T = \frac{[(\$125 - \$23) \cdot 72] - [\$92 \cdot 16]}{\$150 - \$125}$$

$$T = \frac{\$7344 - \$1472}{\$25}$$

$$T = \frac{\$5872}{\$25} = 234.88 \text{ weeks}$$

$$T = \text{approximately 4.5 years}$$

- Jo's foregone income is approximately $5872. It will take Jo approximately 4.5 years to make up these lost wages in the occupation s/he has chosen.

- Money for college: a last word: Don't rule out college just because the costs appear to be high. One very important concept to keep in mind is that your choice of training or educational institution should not be restricted solely on the basis of the gross costs associated with attendance. Your net cost at many institutions will be equal to what you can afford to pay--any extra money you will need to make up the difference between what you can afford and what it "costs" is (or should be) available in the form of financial aid. If you would like current information about financial aid at Macomb County Community College, request a copy of Closing the Money Gap: A Financial Aid Information Packet from the Financial Aid Office.

SOME GRAINS OF SALT: Graduate Employment Report Summary

- Where did this information come from? The graduate employment report summary reproduced under each program is based on a follow-up survey of all Macomb County Community College graduates who applied for and met the requirements for either a certificate or associate degree between August 1974 and June 1975.* As such, you should probably not make conclusions about the employability of certificate versus associate degree holders.

- Some things to keep in mind . . . You should find this information useful to you if you keep the following limitations in mind:

    - There were 830 graduates from South Campus in this period and responses were received from 700 (84%).
    - Center Campus had 723 graduates and responses were received from 420 (57%).
    - Many students never apply for a degree or certificate even though they qualify--we don't know what happens to them.
    - We feel that in some instances the salaries reported by graduates are higher than what the market would normally permit for beginning workers. Because of this

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*Copies of the Graduate Placement Follow-up Report for both South and Center Campuses are available from the Placement Office of the respective campus (H305--South and G125--Center Campus).

we have concluded that it is very likely that many of these students were employed before graduation and that this probably accounts for the higher reported salaries.

- Students were surveyed in 1975 and their salary figures are now two years old.
- For several of the programs the number of people responding was very small: you shouldn't make generalizations based on the experiences of two, three, or even ten people.
- The median salary is the middle salary of the range of salaries and it is a common and reliable way of identifying the typical or most usual salary. For example, let's assume that we have 7 monthly salaries--$300, $425, $500, $500, $510, and $1,500. The middle (or median) salary is $500 and the range $300 to $1,500.

DEGREE AND CERTIFICATE REQUIREMENTS

General Requirements for ALL Associate Degrees

- A minimum of 62 semester hours of credit
- A minimum Grade Point Average of 2.0
- Attendance at MCCC during the semester in which requirements for the degree are completed

DEGREE/CERTIFICATE	REQUIREMENTS	
	South Campus	Center Campus
Associate of Arts	• 2 Courses in each of the General Education Group Classifications* (except Group V) • History 230 and 231 [fulfills Group III General Education requirements] OR Political Science 100 [partially fulfills Group III General Education requirements] OR Social Science 122 • 2 sem hrs in Physical Education	• English 121 and 122 • Humanities 121 and 122 • Natural Science 121 and 122 • Social Science 121 and 122 • 2 sem hrs in Physical Education
Associate of Applied Science	• 1 course in each of the General Education Group Classifications* • History 230 and 231 OR Political Science 100 [fulfills Group III General Education requirements] OR Social Science 122 • 2 sem hrs in Physical Education	• English 121 and 122 OR English 116 and 117 • Humanities 121 and 122 OR Natural Science 121 and 122 • Social Science 121 and 122 • 2 sem hrs in Physical Education

Associate of General Studies	● Successful completion of Associate Degree General Requirements	● Successful completion of Associate Degree General Requirements
Certificate in Applied Science	● Successful completion of Core Courses--see specific program in General Catalog	
Certificate in General Studies	● Successful completion of a minimum of 30 sem hrs in General Education	
General Education Certificate in the Behavioral Sciences	● Successful completion of 30 sem hrs, including: ● Psychology 101 ● Sociology 100 ● Anthropology 101 ● 20 sem hrs of credit from the following courses: Anthropology 211 Anthropology 221 Psychology 216 Psychology 217 Psychology 211 Psychology 222 Psychology 230 Psychology 260 Psychology 281 Sociology 110 Sociology 245 Social Science 283 (3 to 6 credits)	NOT OFFERED AT CENTER CAMPUS

* General Education Group Classifications (South Campus)

- Group I: English Composition, Speech
- Group III: Anthropology, Economics, Geography, History, Political Science, Psychology, Sociology, and Social Science
- Group V: Physical Education
- Group II: Astronomy, Biology, Chemistry, Geology, Physics, Mathematics, Natural Science, Physical Science
- Group IV: Art, Music, Humanities, Literature, Philosophy, Modern Languages, and Creative Writing

PERCENTAGE INCREASE OR DECREASE IN EMPLOYMENT BY OCCUPATION 1974-85

The chart below will help you to understand and interpret the employment information reproduced inside this foldout.

Description	Projected 1974-75 change in employment requirements
Much faster than the average for all occupations.........	50.0% or greater
Faster than the average for all occupations..............	25.0% to 49.9%
About as fast as the average for all occupations........	15.0% to 24.9%
Slower than the average for all occupations..............	4.0% to 14.9%
Little change is expected..............................	3.9% to -3.9%
Expected to decline....................................	-4.0% or greater

*The average increase projected [by the Bureau of Labor Statistics] for the 1974-75 period is 20.3%.

[Source: Occupational Outlook Handbook, 1976-77 Edition]

Percentage Increase or Decrease (—) in Employment by Occupation, 1974-85

PROFESSIONAL, TECHNICAL, AND KINDRED WORKERS

Engineers, technical	[illegible]
Engineers, aero-astronautic	12
Engineers, chemical	24
Engineers, civil	35
Engineers, electrical	30
Engineers, industrial	16
Engineers, mechanical	28
Engineers, sales	18
Engineers, other	20
Life and physical scientists	23
Biological scientists	28
Chemists	20
Geologists	35
Physicists and astronomers	29
Other life and physical scientists	15
Mathematical specialists	39
Actuaries and mathematicians	45
Statisticians	53
Engineering and science technicians	40
Agriculture and biological technicians, except health	17
Chemical technicians	25
Drafters	42
Surveyors	59
Other engineering and science technicians	50
Medical workers, except technicians	50
Dentists	38
Dietitians	29
Pharmacists	26
Physicians, medical and osteopathic	49
Registered nurses	51
Veterinarians	42
Other medical and health workers	84
Health technologist and technicians	70
Clinical laboratory technologists and technicians	52
Dental hygienists	158
Radiologic technologists and technicians	37
Other health technologists and technicians	110
Technicians, except health engineering, and science	46
Airplane pilots	25
Air traffic controllers	24
Radio operators	46
Other technicians, except health, engineering, and science	80
Computer specialists	55
Computer programmer	49
Computer systems analysts	65
Other computer specialists	62
Social scientists	43
Economists	39
Psychologists	45
Other social scientists	57
Teachers	6
Adult-education teachers	45
College and university teachers	—2
Prekindergarten and kindergarten teachers	13
Elementary-school teachers	13
Secondary-school teachers	—8
Teachers, except college and university	43
Writers, artists, and entertainers	32
Authors	16
Designers	29
Musicians and composers	25
Painters and sculptors	25
Photographers	19
Public-relations specialists	29
Radio and television announcers	14
Other writers, artists, and entertainers	45
Other professional and technical workers	35
Accountants	23
Architects	40
Clergy	12
Foresters and conservationists	26
Lawyers	42
Librarians	20
Personnel and labor-relations workers	38
Recreation workers	47
Social workers	43
Other professional and technical workers	61
Managers, officials, and proprietors	22
Bank officers and financial managers	47
Construction inspectors, public	43
Funeral directors	—6
Health administrators	67
Inspectors, except construction, public	45
Managers and superintendents, building	44
Office managers	40
Officers, pilots, and pursers; ship	0
Officials and administrators, public	27
Postmasters and mail superintendents	—16
Railroad conducters	2
Restaurant, cafeteria bar managers	8
Sales managers, retail trade	33
Sales managers, except retail trade	28
School administrators	43
Other managers and administrators	16
Sales workers	16
Advertising agents and sales workers	32
Hucksters and peddlers	—3
Insurance agents, brokers, and underwriters	15
Real-estate agents and brokers	22
Stock and bond sales agents	92
Sales representatives, manufacturing	10
Retail-sales clerks	16
Retail-trade sales workers	13
Wholesale-trade sales representatives	15
Other sales workers	26
Clerical workers	34
Stenographers, typists, secretaries	45
Secretaries	50
Stenographers	—24
Typists	35
Office machine operators	9
Bookkeeping- and billing-machine operators	9
Calculating-machine operators	7
Computer, peripheral equipment	36
Duplicating-machine operators	17
Keypunch operators	—20
Other office machine operators	19
Other clerical workers	31
Bank tellers	33
Billing clerks	46
Bookkeepers	11
Cashiers	21
Clerical supervisor	38
Collectors, bill and account	35
Counter clerks except food	28
Dispatchers and starters, vehicles	29
Enumerators and interviewers	6
Estimators and investigators	36
Expeditors and production	

controllers	26
File clerks	16
Insurance adjusters and examiners and investigators	22
Library attendants and assistants	31
Mail carriers, Post Office	3
Mail handlers, except Post Office	35
Messengers and office helpers	7
Meter readers, utilities	8
Payroll and timekeeping	25
Postal clerks	3
Real-estate appraisers	38
Receptionists	38
Shipping and receiving clerks	20
Statistical clerks	16
Stock clerks and store keepers	25
Teachers aides, except school monitors	88
Telephone operators	—1
Ticket, station, and express agents	17
Weighters	3
Other clerical workers	85

CRAFTS AND KINDRED WORKERS

Construction-crafts workers	27
Carpenters	21
Brickmasons and stonemasons	24
Bulldozer operators	51
Cement and concrete finishers	33
Electricians	31
Excavating, grading, and road-machine operators	52
Painters, construction and maintenance	7
Paperhangers	25
Plasterers	—4
Plumbers and pipefitters	39
Roofer and slaters	44
Structural metal-craft workers	32
Tilesetters	12
Other construction-craft workers	31
Blue-collar worker supervisors	21
Metal working-crafts workers, except mechanics	14
Boilermakers	55
Job and die setters, metal	31
Machinists	8
Millwrights	21
Molders, metal	7
Pattern and model makers	—7
Rollers and finishers, metal	4
Sheet-metal workers and tinsmiths	17
Tool and die makers	19
Other metalworking-craft workers	6
Mechanics, repairers and installers	22
Air-conditioning, heating, and refrigeration mechanics	37
Aircraft mechanics	23
Automobile mechanics and body repairers	21
Data-processing machine repairers	86
Farm-implement mechanics	23
Heavy-equipment mechanics, including diesel	18
Household-appliance mechanics	24
Office-machine repairers	49
Radio and television repairers	34
Railroad and car shop repairers	—20
Other mechanics and repairers	7
Printing-trade crafts workers	5
Bookbinders	6
Compositors and typesetters	—5
Photoengravers and lithographers	19
Printing press operators	16
Other printing trade craft workers	0
Transportation and public-utility crafts workers	13
Electric power-line installers and repairers	30
Locomotive engineers and helpers	—9
Telephone installers and repairers	15
Telephone-line installers and splicers	—6
Other transportation and public-utility craft workers	6
Other craft and kindred workers	7
Bakers	—2
Carpet installers	20
Crane, derrick, and hoist operators	8
Decorators and window dressers	12
Dental laboratory technicians	48
Glazers	28
Inspectors	15
Opticians, lens grinders, polishers	59
Shoe repairers	—10
Stationary engineers	0
Tailors	0
Upholsterers	2
Other crafts and kindred workers	0

OPERATIVES

Metalworking operatives	13
Drill-press operatives	—2
Furnace tenders, smelters and pourers	9
Grinding-machine operators	2
Lathe- and milling-machine operators	—1
Punch- stamping-press operatives	7
Welders and flame cutters	26
Other metalworking operatives	0
Textile operatives	—15
Knitters, loopers, and toppers	—25
Spinners, twisters, winders	—7
Weavers	—23
Other textile operatives	—18
Packing and inspecting operatives	18
Checkers, examiners and inspectors, manufacturing	28
Graders and sorters, manufacturing	3
Meat wrappers, retail trade	27
Packers and wrappers, except meat and produce	7
Produce graders and packers, except factory and farm	10
Other operatives except transport	8
Asbestos and insulation workers	67
Assemblers	19
Bottling and canning operatives	—4
Clothing ironers and pressers	—20
Cutting operatives	11
Dressmakers and seamstresses, except factory	—2
Drillers, earth	16
Drywall installers and lathers	18
Filers, polishers, sanders, and buffers	—6
Meat cutters, butchers except manufacturing	1
Meat cutters, butchers	2
Mine operatives	2
Mixing operatives	3
Oilers and greasers, except automobile	—7
Painters, manufacturing articles	3
Photographic process workers	43
Riveters and fasteners	6
Sailors and deckhands	—12
Sawyers	4
Sewers and stitchers	7
Shoemaking machine operatives	—25
Furnace tenders and stokers, except metal	—6
Winding operatives	24
Other operatives, except transport	7
Transport operatives	8
Bus drivers	23
Delivery and route workers	9
Fork lift and tow motor operatives	15
Parking attendants	7
Railroad-brake operators	—4
Railroad switch operators	—14
Taxicab drivers and chauffeurs	—18
Truck drivers	9
Other transport operatives	8
Cleaning service workers	32
Lodging quarters cleaners, except private household	37
Building interior cleaners	49
Janitors and sextons	21
Food service workers	24
Bartenders	29
Waiters' assistants	13
Cooks, except private household	31
Dishwashers	19
Food-counter and fountain workers	21
Waiters	22
Food workers, except private household	19
Health service workers	70
Dental assistants	31
Health aides, except nursing	60
Nurses aides, orderlies	64
Practical nurses	97
Other health service workers	—69
Personal service workers	31
Flight attendants	37
Attendants, recreation and amusement	33
Attendants, personal service	17
Baggage porters and bellhops	—11
Barbers	6
Boarding and lodging housekeepers	7
Child care workers, except private household	56
Elevator operators	—24
Hairdressers and cosmetologists	26
Housekeepers, except private household	15
School monitors	59
Welfare service aides	73
Other personal service workers	—11
Protective service workers	26
Crossing guards and bridge tenders	21
Firefighters	23
Guards	7
Police and detectives	46
Sheriffs, bailiffs, constables, and marshals	37
Private household workers	—27

LABORERS EXCEPT FARM

Animal caretakers, except farm	25
Freight and material handlers	2
Garbage collectors	72
Gardeners and groundskeepers, except farm	9
Longshore workers and stevedores	—10
Timbercutting and logging workers	—27
Stock handlers	18
Vehicle washers and equipment cleaners	10
Warehouse laborers	—4
Other laborers, except farm	—5

FARMERS AND FARMWORKERS

Farmers and farm managers	—38
Farm laborers and farm supervisors	—40

ALLIED HEALTH PROGRAMS

[offered only at Center Campus]

[NOTE: The following programs have limited enrollments, special admissions requirements, and special deadline dates. For information contact the Admissions Office, Macomb County Community College, Center Campus, 16500 Hall Road, Mt. Clemens, MI 48043, 313/465-0465.]

Dental Assistant

Medical Laboratory Technician

Medical Office Assistant

Nursing (R.N.)

Practical Nursing

Respiratory Therapy

Veterinarian Technician

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Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
146	126	100	7	19	$300-1200	$743

94 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$300-1200	$740

6 Grads Report Working Full-Time/Unrelated Field	
Earning Range	Median Salary
$500-908	$800

DENTAL ASSISTANT (Center Campus only)

OCCUPATIONAL INFORMATION
IN A NUTSHELL . . .

DENTAL ASSISTANT [SAI--Holland Code]

NATURE OF WORK. Assists dentist by securing patients' records, preparing patients for examination, arranging and handling dental instruments, materials and medications. Prepares dental cements, amalgams and denture materials. May take X-rays, arrange appointments, collect fees, and perform other office duties. (Not to be confused with dental hygienist which requires special training and licensing.)

EMPLOYMENT TRENDS. Employment expected to grow faster than average for all occupations in response to increasing use of assistants by dentists. Excellent opportunities, especially for graduates of approved programs. Favorable outlook for part-time work.

	1970 employment	Annual openings to 1980	Projected 1980
Detroit area	2,400	390	----
Michigan	4,300	620	6,300

ESTIMATED SALARY. Starting $80-160 per week, depending on experience and education; experienced $150-250 per week.

POSSIBLE CAREER LADDER. Training and experience requirements for advancement and job categories vary greatly among employers. The chart below represents only one possible career ladder within the field of dental assistant.

Instructor
Certified Dental Assistant
Dental Assistant

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 70, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Dental Assistant		
• 10 Certificate Core Courses	31	$546.70*
Associate of Applied Science Degree - Dental Assistant		
• 10 Certificate Core Courses	31	$546.70*
• 8 Associate Degree Core Courses	24	$394.65 - $438.65*
• Electives	7	[see Index]
	62	

CERTIFICATE CORE COURSES - DENTAL ASSISTANT	SEM HRS
DOA 116 Elements of Dental Assisting	4
DOA 117 Basic Assisting Skills	4
DOA 126 Dental Materials I	3
DOA 127 Dental Materials II	3
DOA 130 Principles of Dental Science	3
DOA 146 Principles of Radiology	3
DOA 147 Radiographic Techniques	2
DOA 150 Dental Office Procedures	4
DOA 160 Seminar	2
DOA 170 Internship	3
	31

ASSOCIATE DEGREE CORE COURSES - DENTAL ASSISTANT	SEM HRS
ALH 110 Health Concepts	1
ENG 116/121 English	3
ENG 117/122 English	3
NSC 122 Life Science	3
PED 100/104 to 197 Physical Education	2
PSY 101 Introductory Psychology	4
SSC 121 Man and Society	4
SSC 122 The American System	4
	24

[NOTE: This is a limited enrollment program (admissions quota--50). For special admissions requirements contact the Admissions Office, Macomb County Community College, Center Campus, 16500 Hall Road, Mt. Clemens, MI 48043, 313/465-0465].

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

1974-75 GRADUATE EMPLOYMENT REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
10	7	5	0	2	$480-560	$500

5 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$480-560	$500

MEDICAL LABORATORY TECHNICIAN (Center Campus only)

OCCUPATIONAL INFORMATION
IN A NUTSHELL . . .

MEDICAL LABORATORY TECHNICIAN [ISR--Holland Code]

NATURE OF WORK. Performs routine chemical, microscopic and bacteriologic tests to provide data for use in the treatment and diagnosis of disease. Performs blood tests, basal metabolism tests, analyzes specimens, conducts medical research.

EMPLOYMENT TRENDS. Employment expected to increase faster than average for all occupations as physicians make wider use of laboratory facilities. However, applicants may face competition for choice positions.

	1970 employment	Annual openings to 1980	Projected 1980
Detroit area	2,400	360	----
Michigan	4,800	720	8,650

ESTIMATED SALARY. Starting $6,200; experienced $8,300.

****

PROGRAM REQUIREMENTS AND COSTS . . .
(see page 78, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Associate of Applied Science Degree - Medical Laboratory Technician		
• 18 Associate Degree Core Courses....	69..........	$1248.59 - $1271.45*

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

ASSOCIATE DEGREE CORE COURSES - MEDICAL LABORATORY TECHNICIAN	SEM HRS
ALH 110 Health Concepts	1
BIO 271 Physiological Anatomy	6
BIO 273 Pathogenic Microbiology	4
BIO 275 Medical Bacteriology, Mycology, & Parasitology	4
CHM 105 General Chemistry I	4
ENG 116/121 English	3
ENG 117/122 English	3
MTH 100 Intermediate Algebra	3
MLT 106 Hematology	5
MLT 107 Urinalysis, Immunohematology, Serology	5
MLT 126 Clinical Practice I	6
MLT 234 Clinical Chemistry and Instrumentation I	5
MLT 235 Clinical Chemistry and Instrumentation II	2
MLT 227 Clinical Practice II	6
MLT 240 Seminar	2
PED 100/104 to 197 Physical Education	2
SSC 121 Man and Society	4
SSC 122 The American System	4
	69

[NOTE: This is a limited enrollment program (admissions quota--30). For special admissions requirements contact the Admissions Office, Macomb County Community College, Center Campus, 16500 Hall Road, Mt. Clemens, MI 48043.]

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1974-75 GRADUATE EMPLOYMENT REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
17	14	9	2	3	$718-800	$740

7 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$718-800	$720

1 Grad Reports Working Full-Time/Unrelated Field
Salary
$800

MEDICAL OFFICE ASSISTANT (Center Campus Only)

OCCUPATIONAL INFORMATION IN A NUTSHELL . . .

MEDICAL OFFICE ASSISTANT [SIR--Holland Code]

NATURE OF WORK. Under the direction of a physician, aids in the examination and treatment of patients. Prepares room, equipment, materials, and patients for the physician. May interview patients and check pulse, temperature, blood pressure, weight, height. May operate equipment, administer injections or treatments, assist in laboratories. May maintain medical instruments and records. May perform routine office duties.

EMPLOYMENT TRENDS. Employment expected to increase faster than average for all occupations in response to growth in number of physicians. Excellent opportunities particularly for graduates of accredited community/junior college programs.

ESTIMATED SALARY. Starting $6,200; experienced $9,500.

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PROGRAM REQUIREMENTS AND COSTS . . .

(see page 78, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Medical Office Assistant		
• 11 Certificate Core Courses	31	$531.33*

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

CERTIFICATE CORE COURSES - MEDICAL OFFICE ASSISTANT	SEM HRS
ALH 110 Health Concepts	1
MOA 116 Medical Office Assisting I	3
MOA 117 Medical Office Assisting II	3
MOA 126 Medical Laboratory Techniques I	3
MOA 127 Medical Laboratory Techniques II	3
MOA 136 Medical Office Management I	3
MOA 137 Medical Office Management II	3
MOA 140 Medical Office Insurance Forms	3
MOA 150 Internship	3
TYP 117 Intermediate Typewriting	3
OFF 140 Medical Terminology	3
	31

[NOTE: This is a limited enrollment program (admissions quota--60). For special admissions requirements contact the Admissions Office, Macomb County Community College, Center Campus, 16500 Hall Road, Mt. Clemens, MI 48043.]

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1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
36	28	23	1	4	$300-650	$500

21 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$300-600	$490

2 Grads Report Working Full-Time/Unrelated Field	
Earning Range	Median Salary
$500-650	$575

NURSING (Associate Degree; Center Campus only)

OCCUPATIONAL INFORMATION IN A NUTSHELL . . .

REGISTERED NURSE [SIA--Holland Code]

NATURE OF WORK. The Registered Nurse (R.N.) performs and supervises nursing activities and duties requiring specialized judgment and skill in the observation, care, and counseling of patients. May participate in health programs, planning for community health services, or administering various hospital programs. A nurse must fulfill certain educational, legal, and training requirements to practice nursing professionally under license from the State Board of Nursing of Michigan.

EMPLOYMENT TRENDS. Very rapid increase and favorable opportunities, especially for nurses with graduate education seeking positions as teachers and administrators. Strong demand in some southern states and many inner-city locations.

	1970 employment	Annual openings to 1980	Projected 1980
Detroit area	13,950	1,550	----
Michigan	32,100	3,560	45,250

ESTIMATED SALARY. Starting $8,000 (AA--$8,500, BA--$10,000); experienced $13,000.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 81, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Associate of Applied Science Degree - Nursing		
● 15 Associate Degree Core Courses....	67	$1231.20 - $1284.20*

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

ASSOCIATE DEGREE CORE COURSES - NURSING	SEM HRS
ADN 100 Fundamentals	6
ADN 110 Maternity Nursing	4
ADN 120 Mental-Physical Nursing I	5
ADN 226 Mental-Physical Nursing II	11
ADN 227 Mental-Physical Nursing III	5
ADN 250 Trends in Nursing	1
ADN 240 Pediatric Nursing	5
BIO 271 Physiological Anatomy	6
BIO 273 Pathogenic Microbiology	4
ENG 121 Composition I	3
ENG 122 Composition II	3
PED 100/104 to 197 Physical Education	2
PSY 101 Introductory Psychology	4
SSC 121 Man and Society	4
SSC 122 The American System	4
	67

[NOTE: This is a limited enrollment program (admissions quota--100). For special admissions requirements contact the Admissions Office, Macomb County Community College, Center Campus, 16500 Hall Road, Mt. Clemens, MI 48043.]

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1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

[NOTE: The information below was obtained from graduates of the Nursing program and the Practical Nursing program. These are, however, different professions, and each has its own licensing and academic requirements.]

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
74	69	55	10	4	$500-1200	$840

53 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$500-1200	$820

2 Grads Report Working Full-Time/Unrelated Field	
Earning Range	Median Salary
$900-908	$904

PRACTICAL NURSING (certificate; Center Campus only)

OCCUPATIONAL INFORMATION
IN A NUTSHELL . . .

LICENSED PRACTICAL NURSE [SAI--Holland Code]

NATURE OF WORK. The Licensed Practical Nurse (LPN) gives nursing care under the supervision of the Registered Nurse or physician in simple nursing situations. Cares for ill, injured, convalescent and handicapped persons in institutions and homes. Takes and records temperature, blood pressure, pulse, and respiration rate. Dresses wounds, gives enemas, douches, alcohol rubs and massages. Administers medication. Assembles, uses, and sterilizes equipment such as catheters and tracheotomy tubes. Answers patients calls, feeds patients, and maintains records. Must meet Michigan licensing requirements to practice as a Licensed Practical Nurse (LPN).

EMPLOYMENT TRENDS. Very good opportunities as public and private health insurance plans expand and as LPN's assume duties previously performed by registered nurses.

	1970 employment	Annual openings to 1980	Projected 1980
Detroit area	5,300	780	----
Michigan	13,500	1,990	22,800

ESTIMATED SALARY. $3.90-5.83 per hour, variable on area and experience.

****

PROGRAM REQUIREMENTS AND COSTS . . .
(see page 82, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Practical Nursing		
● 6 Certificate Core Courses	47	$762.10 - $768.10*

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[*] This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

CERTIFICATE CORE COURSES - PRACTICAL NURSING	SEM HRS
BIO 271 Physiological Anatomy	6
PNS 156 Fundamentals of Practical Nursing	11
PNS 157 Care of Mothers, Infants, and Children	6
PNS 158 Care of the Adult Patient	16
PSY 101 Introductory Psychology	4
SSC 121 Man and Society	4
	47

[NOTE: This is a limited enrollment program (admissions quota--45). For special admissions requirements contact the Admissions Office, Macomb County Community College, Center Campus, 16500 Hall Road, Mt. Clemens, MI 48043.]

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1974-75 GRADUATE EMPLOYMENT REPORT SUMMARY . . .

[NOTE: The information below was obtained from graduates of the Practical Nursing program and the Nursing program. These are, however, different professions, and each has its own licensing and academic requirements.]

Grads in the Programs	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
74	69	55	10	4	$500-1200	$840

53 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$500-1200	$820

2 Grads Report Working Full-Time/Unrelated Field	
Earning Range	Median Salary
$900-908	$904

RESPIRATORY THERAPY (Center Campus only)

OCCUPATIONAL INFORMATION
IN A NUTSHELL . . .

RESPIRATORY THERAPIST [SIR--Holland Code]

NATURE OF WORK. Under physician's supervision, provides oxygen to patients. Operates various types of equipment to restore and maintain the normal functions of the body by means of the heart-lung system.

EMPLOYMENT TRENDS. Employment expected to grow faster than average for all occupations due to many new uses for respiratory therapy. Favorable employment opportunities. (Detroit area and State of Michigan data not available.)

ESTIMATED SALARY. $5.10 - 6.57 per hour.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 84, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Associate of Applied Science Degree - Respiratory Therapy		
• 20 Associate Degree Core Courses	71	$1253.65 - $1294.15*

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

ASSOCIATE DEGREE CORE COURSES - RESPIRATORY THERAPY

	SEM HRS
ALH 110 Health Concepts	1
BIO 271 Physiological Anatomy	6
BIO 273 Pathogenic Microbiology	4
ENG 116/121 English	3
ENG 117/122 English	3
MTH 100 Intermediate Algebra	3
NSC 115 Physical Science	3
PED 100/104 to 197 Physical Education	2
PSY 101 Introductory Psychology	4
RSP 105 Respiratory Therapy	3
RSP 116 Nursing Arts for Respiratory Therapy	3
RSP 117 Respiratory Therapy Procedures	6
RSP 118 Applied Respiratory Therapy	3
RSP 126 Clinical Practice I	6
RSP 227 Clinical Practice II	4
RSP 228 Clinical Practice III	4
RSP 230 Department Administration & Organization	3
RSP 240 Respiratory Therapy Seminar	2
SSC 121 Man and Society	4
SSC 122 The American System	4
	71

[NOTE: This is a limited enrollment program (admissions quot --55) For special admissions requirements contact the Admissions Office, Macomb County Community College, Center Campus, 16500 Hall Road, Mt. Clemens, MI 48043.]

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1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
9	8	8	0	0	$641-834	$700

8 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$641-834	$700

VETERINARY TECHNICIAN (Center Campus only)

OCCUPATIONAL INFORMATION
IN A NUTSHELL . . .

VETERINARY HOSPITAL ASSISTANT [SRI--Holland Code]

NATURE OF WORK. Assists veterinarians in the handling, care, and treatment of animals. May prepare animals for examination, maintain records and perform other clinical and clerical duties as requested.

EMPLOYMENT TRENDS. Specifically not available.

ESTIMATED SALARY. Specifically not available.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 86, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Associate of Applied Science Degree - Veterinary Technician		
● 17 Associate Degree Core Courses	67	$1090.65 - $1134.10*

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

ASSOCIATE DEGREE CORE COURSES - VETERINARY TECHNICIAN	SEM HRS
BIO 271 Anatomy and Physiology	6
BIO 275 Medical Bacteriology, Parasitology, and Mycology	4
CHM 105 General Chemistry	4
ENG 116/121 English	3
ENG 117/122 English	3
MOA 136 Medical Office Management	3
MLT 106 Hematology	5
PED 100/104 to 197 Physical Education	2
SSC 121 Social Science	4
SSC 122 Social Science	4
VET 110 Veterinary Technician I	4
VET 121 Veterinary Technician II	4
VET 136 Internship	8
VET 240 Animal Technology	3
VET 250 Pharmacology	3
VET 260 Veterinary Technician III	3
VET 237 Internship	4
	67

[NOTE: This is a limited enrollment program (admissions quota--32). For special admissions requirements contact the Admissions Office, Macomb County Community College, Center Campus, 16500 Hall Road, Mt. Clemens, MI 48043.]

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1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
NOT AVAILABLE.		NO GRADUATES IN 1974-75.				

APPRENTICE AND RELATED PROGRAMS (South Campus only)

OCCUPATIONAL INFORMATION
IN A NUTSHELL . . .

APPRENTICE

NATURE OF WORK. Apprenticeship is a planned, supervised, on-the-job training program, supplemented with related instruction. Apprentices work in a wide variety of trades and crafts for periods of 2-5 years. They are usually selected competitively by employers and apprenticeship committees composed of members of the respective trade or craft.

EMPLOYMENT TRENDS. The number and types of apprenticeships make it extremely difficult to provide employment trends. It is suggested that you contact the Division of Applied Technology, Macomb County Community College for additional information.

ESTIMATED SALARY. Varies with the trade or craft.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see pp. 58-59, General Catalog)

Programs for apprentices and others taking apprentice related training are developed individually on the basis of the educational requirements of a particular craft or trade. At Macomb County Community College apprentice and related training is provided in the following:

- Construction Craft Apprenticeship Programs:
  Bricklayer - Mason
  Carpenter
  Electrical Construction & Maintenance
  Lathers
- Manufacturing Craft Apprenticeship Programs:
  Draftsman - Engineering Design (N.A.E.C.)
  Die Cast Die Maker
  Die Design
  Die Maker
  Die Sinker
  Draftsman - Design
  Machine Builder - Tool Maker
  Machinist
  Metal Model Maker
  Metal Pattern Maker
  Mold & Core Maker
  Mold Maker - Plastic
  Sheet Metal - Experimental Body
  Tool & Die Heat Treat

- Tool & Die Maker
- Tool Maker
- Tool Maker/Jig & Fixture
- Wood Model Maker
- Wood Pattern Maker

- Maintenance Craft Apprenticeship Programs:
  - Garage Mechanic - Automotive
  - Electrician - Machine Tool
  - Industrial Electrician
  - Industrial Hydraulics
  - Industrial Lift Truck Mechanic
  - Machine Repair
  - Maintenance Mechanic - Industrial
  - Maintenance - Refrigeration, Air, Heat & Ventilation
  - Millwright
  - Plumber/Pipefitter
  - Sheet Metal - Structural Fabricating
  - Water Plant Operator
  - Welder Equipment Repair
  - Welder - Industrial Maintenance

BUSINESS AND RELATED PROGRAMS

CENTER CAMPUS	SOUTH CAMPUS
●Accounting	●Accounting
	●Business Data Processing
●Clerical	●Clerical Studies
●Executive Secretarial	●Executive Secretarial Studies
●General Business	●General Business
	●Legal Secretarial Studies
●Marketing	●Marketing
●Medical Secretary	
	●Para-Legal Technology
●Real Estate	

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1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Center Campus

Grads in the Programs	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
96	52	46	4	2	$250-2000	$625

37 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$400-2000	$625

9 Grads Report Working Full-Time/Unrelated Field	
Earning Range	Median Salary
$250-1500	$718

South Campus

Grads in the Programs	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
219	172	135	20	17	$200-1875	$856

95	Grads Report Working Full-Time/Related Field
Earning Range	Median Salary
$336-1666	$800

40	Grads Report Working Full-Time/Unrelated Field
Earning Range	Median Salary
$200-1875	$925

ACCOUNTING (Center and South Campuses)

OCCUPATIONAL INFORMATION
IN A NUTSHELL . . .

RELATED JOBS. For the inexperienced two-year graduate, initial opportunities are often with medium to small size firms in paraprofessional positions such as bookkeepers, general accounting clerks, and payroll clerks. Most accountants possess a Bachelors or higher degree with an accounting major. Many opportunities are with large firms.

BOOKKEEPING WORKER [CSI--Holland Code]

NATURE OF WORK. Verifies and enters details of financial transactions in journals and ledgers. Balances books and computes reports pertinent to operation of business or organization. May calculate employee wages and prepare paychecks, tax reports and monthly statements. May operate adding, calculating, and bookkeeping machines.

EMPLOYMENT TRENDS. A slow increase in employment is expected for all occupations because of increasing automation in recordkeeping. Most job openings will result from replacement needs.

	1970 employment	Annual openings to 1980	Projected 1980
Detroit area	28,650	2,320	----
Michigan	59,050	4,780	70,400

ESTIMATED SALARY. Beginning $489 per month; experienced $628 per month.

ACCOUNTANT [CES/CIS--Holland Code]

NATURE OF WORK. Designs, modifies or adopts a system to record the assets, liabilities, and financial transactions of a business, institutional or governmental establishment. Maintains accounts and records, and supervises subordinates in bookkeeping activities. Prepares and files financial reports and tax returns.

EMPLOYMENT TRENDS. Very good opportunities. Because of growing complexity of business accounting requirements, college graduates, particularly those who worked part-time for an accounting firm while in school, will be in greater demand than nongraduates. Employers also prefer applicants trained in computer techniques.

	1970 employment	Annual openings to 1980	Projected 1980
Detroit area	16,200	940	----
Michigan	28,200	35,500	1,640

ESTIMATED SALARY. Beginning $9,100; experienced $11,000-17,400.

POSSIBLE CAREER LADDERS. Training and experience requirements for advancement, and job categories vary greatly among employers. The chart below represents only four possible career ladders within the field of Accounting.

PUBLIC ACCOUNTING	PRIVATE ACCOUNTING	GOVERNMENT ACCOUNTING	TEACHING ACCOUNTING
PARTNER (Sales & P.R.)	CONTROLLER	REGIONAL MANAGER	VICE-PRESIDENT, ACADEMIC AFFAIRS
MANAGER (Responsible for several clients)	PLANT DIVISION MANAGER	DIRECTOR	DEAN OF BUSINESS COLLEGE
SUPERVISOR (Review all audit reports)	CHIEF PLANT ACCOUNTANT	ASSISTANT DIRECTOR	CHAIRMAN OF ACCOUNTING DEPT.
STAFF A JR. ACCOUNTANTS (increased responsibilities)	MGR. INTERNAL AUDITING	STAFF SUPERVISOR	PROFESSOR
STAFF B (1 year training in a variety of field assignmts.	SR. INTERNAL AUDITOR	SENIOR ACCOUNTANT	ASSISTANT PROFESSOR
STAFF C *(Professional bookkeepers)	SR. BUDGET ANALYST	ASSISTANT SR. ACCOUNTANT	ASSOCIATE PROFESSOR
	JR. BUDGET ANALYST	STAFF ACCOUNTANT	INSTRUCTOR
	SENIOR COST ACCOUNTANT	*JUNIOR ACCOUNTANT	TEACHING ASSISTANT
	*JUNIOR COST ACCOUNTANT	*BOOKKEEPER	
	*ACCOUNTING CLERK		
	BOOKKEEPER		
	*TIMEKEEPER		

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* 2 years of college or less

PROGRAM REQUIREMENTS AND COSTS . . .
(see page 64, General Catalog)

CENTER CAMPUS

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate of Applied Science - Accounting		
• 9 Certificate Core Courses	31	$549.45 - $572.45*
Associate of Applied Science Degree - Accounting		
• 9 Certificate Core Courses	31	$549.45 - $572.45*
• 3 Associate Degree Core Courses	10	$175.45*
• General Education	20	[see Index]
• Physical Education	2	[see Index]
	63	

CERTIFICATE CORE COURSES - ACCOUNTING	SEM HRS
ACC 101 Principles of Accounting I	3
ACC 102 Principles of Accounting II	3
ACC 103 Principles of Accounting III	3
ACC 218 Intermediate Accounting I	4
ACC 219 Intermediate Accounting II	4
ACC 227 Cost Accounting	4
BUS 101 Introduction to Business	3
BUS 108 Business Law I	4
BCO 204 Business Correspondence	3
	31

ASSOCIATE DEGREE CORE COURSES - ACCOUNTING	SEM HRS
BDP 101 Computer and Data Processing Principles	4
MGT 101 Principles of Management	3
BUS 255 Cooperative Education or Elective	3
	10

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

SOUTH CAMPUS

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate of Applied Science - Accounting		
● 9 Certificate Core Courses	35	$633.15 - $638.10
Associate of Applied Science Degree - Accounting		
● 9 Certificate Core Courses	35	$633.15 - 638.10
● Electives	11	[see Index]
● General Education	16	[see Index]
	62	

CERTIFICATE AND ASSOCIATE DEGREE CORE COURSES - ACCOUNTING	SEM HRS
ACC 108 Principles of Accounting I	4
ACC 109 Principles of Accounting II	4
ACC 218 Intermediate Accounting I	4
ACC 219 Intermediate Accounting II	4
ACC 227 Cost Accounting	4
ACC 230 Federal Income Tax - Individual	4
BUS 101 Introduction to Business	3
BDP 101 Computer & Data Processing Principles	4
BCO 205 Business Communications	4
	35

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1974-75 GRADUATE EMPLOYMENT REPORT SUMMARY . . .

Center Campus

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
23	12	10	1	1	$450-1500	$610

8 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$450-1200	$600

2 Grads Report Working Full-Time/Unrelated Field	
Earning Range	Median Salary
$550-1500	$1025

South Campus

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
65	47	32	10	5	$250-1875	$872

18 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$250-1875	$795

12 Grads Report Working Full-Time/Unrelated Field	
Earning Range	Median Salary
$464-1500	$929

BUSINESS DATA PROCESSING (South Campus only)

OCCUPATIONAL INFORMATION
IN A NUTSHELL . . .

RELATED JOBS. Computer operator; computer programmer.

COMPUTER OPERATOR [ICR -- Holland Code]

NATURE OF WORK. Sets control switches on computer and peripheral equipment according to program, routine, subroutine, and data requirements. Selects and loads input and output units with tapes, cards, and printout forms. Observes machines and control panels to monitor equipment operation and program progress. Records operating and down time. May wire equipment controls and sequences.

EMPLOYMENT TRENDS. Employment should grow faster than average for all occupations in response to the expanding use of computer hardware, especially terminals.

Computer Operator

	1970 employment	Annual openings to 1980	Projected 1980
Detroit area	2,850	270	----
Michigan	4,750	460	7,600

ESTIMATED SALARY. Starting $650 per month; experienced $850 per month.

COMPUTER PROGRAMMER [IRC -- Holland Code]

NATURE OF WORK. Converts business, scientific, engineering, and technical problems from logical flow charts into symbolic formulations and program formats which can then be processed by computers and other automatic data processing equipment. May require knowledge of advanced mathematics.

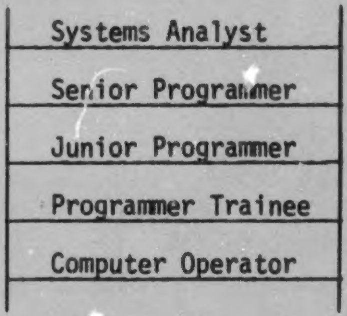
EMPLOYMENT TRENDS. Employment expected to grow faster than average for all occupations, particularly for programmers with some training in systems analysis. However, growth in the number of new computer installations has slowed somewhat, reducing the rate of growth for computer programmers.

Computer Programmer

	1970 employment	Annual openings to 1980	Projected 1980
Detroit area	3,500	200	----
Michigan	5,950	340	8,100

ESTIMATED SALARY. Starting $8,500-10,000; experienced $11,000-16,000.

POSSIBLE CAREER LADDER. Training and experience requirements for advancement and job categories vary greatly among employers. The chart below represents only one possible career ladder within the field of Business Data Processing.


Systems Analyst
Senior Programmer
Junior Programmer
Programmer Trainee
Computer Operator

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 67, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate of Applied Science - Business Data Processing		
● 9 Certificate Core Courses	35	$646.85 - 673.90
Associate of Applied Science Degree - Business Data Processing		
● 9 Certificate Core Courses	35	$646.85 - 673.90
● Electives	11	[see Index]
● General Education	16	[see Index]
	62	

CERTIFICATE AND ASSOCIATE DEGREE CORE COURSES - BUSINESS DATA PROCESSING	SEM HRS
BDP 101 Computer and Data Processing Principles	4
BDP 121 Programming in Generator Language	4
BDP 226 COBOL Programming I	4
BDP 227 COBOL Programming II	4
BDP 236 Administrative Systems	4
BDP 237 Computer System Design	4
BUS 101 Introduction to Business	3
ACC 100/108 Accounting	4
BCO 205 Business Communications	4
	35

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1974-75 GRADUATE EMPLOYMENT REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
45	36	31	1	4	$200-1800	$1075

23 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$600-1800	$1100

8 Grads Report Working Full-Time/Unrelated Field	
Earning Range	Median Salary
$200-1250	$925

CLERICAL STUDIES (Center and South Campuses)

OCCUPATIONAL INFORMATION
IN A NUTSHELL . . .

RELATED JOBS. Receptionist; clerk typist.

RECEPTIONIST [CSE--Holland Code]

NATURE OF WORK. Receives clients or customers coming into establishment, ascertains their wants, and directs them accordingly. May make future appointments and answer inquiries. May perform variety of clerical duties.

EMPLOYMENT TRENDS. Employment expected to grow faster than average for all occupations due to expansion of firms providing business, personal, and professional services. Work is of personal nature and prospects should not be affected by automation.

	1970 employment	Annual openings to 1980	Projected 1980
Detroit area	7,000	860	----
Michigan	14,500	1,740	19,400

ESTIMATED SALARY. Average in urban areas $113 per week.

CLERK TYPIST [CIE--Holland Code]

NATURE OF WORK. Types part of the time from handwritten or typed drafts and the rest of the time performs routine clerical duties of moderate difficulty, such as sorting, filing, and recordkeeping.

EMPLOYMENT TRENDS. Employment expected to grow faster than average for all occupations as business expansion results in increased paperwork. Very good opportunities for typists, particularly those familiar with automatic typewriters and new kinds of word processing equipment.

	1970 employment	Annual openings to 1980	Projected 1980
Detroit area	24,600	2,690	----
Michigan	41,750	4,570	53,250

ESTIMATED SALARY. Median $135 per week. Varies by employer, location, and type of industry.

PROGRAM REQUIREMENTS AND COSTS . . .
(see page 68, General Catalog)

CENTER CAMPUS

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Clerical		
● 10 Certificate Core Courses	29	$512.75 - $528.90*
Associate of Applied Science Degree - Clerical		
● 10 Certificate Core Courses	29	$512.75 - $528.90*
● 3 Associate Degree Core Courses	11	$190.75*
● General Education	20	[see Index]
● Physical Education	2	[see Index]
	62	

CERTIFICATE CORE COURSES - CLERICAL	SEM HRS
ACC 101 Principles of Accounting I	3
BCO 204 Business Correspondence	3
BMA 101 Business Math	3
OFF 102 Office Machines	3
OFF 104 Records Management	3
OFF 200 Personal Development	2
OFF 231 Office Practice	3
TYP 116, 117, or 218 Typing	3
TYP 218 Typing	3
TYP 117, or 218 Typing	3
	29

ASSOCIATE DEGREE CORE COURSES - CLERICAL	SEM HRS
BDP 101 Computer and Data Processing Principles	4
BUS 108 Business Law I	4
BUS 255 Cooperative Education	3
	11

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

SOUTH CAMPUS

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Clerical		
● 10 Certificate Core Courses	29	$568.90 - $571.85*
Associate of Applied Science Degree - Clerical		
● 10 Certificate Core Courses	31	$568.90 - $571.85*
● 3 of the 6 Associate Degree Core Courses	9-11	[see Index]
● Electives	4-6	[see Index]
● General Education	16	[see Index]
	62	

CERTIFICATE CORE COURSES - CLERICAL STUDIES	SEM HRS
TYP 218 Advanced Typewriting	3
BMA 101 Business Mathematics	3
OFF 104 Records Management	3
OFF 200 Personal Development	2
OFF 102 Office Machines	3
BCO 205 Business Communications	4
OFF 231 Office Practice	3
OFF 232 Office Procedures & Administration	3
TYP 219 Automatic Typewriting Systems	3
ACC 100/108 Accounting	4
	31

ASSOCIATE DEGREE CORE COURSES - CLERICAL STUDIES	SEM HRS
Three of the following courses:	
OFF 250 Office Cooperative Internship	3
BUS 108 Business Law I	4
BDP 101 Computer and Data Processing Principles	4
BUS 101 Introduction to Business	3
MGT 120 Office Management	3
MKT 101 Principles of Marketing	3
	9-11

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Center Campus

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
6	0					

South Campus

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
8	7	5	2	0	$332-700	$520

4 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$332-700	$526

1 Grad Reports Working Full-Time/Unrelated Field
Salary
$336

EXECUTIVE SECRETARIAL STUDIES (Center and South Campuses)

OCCUPATIONAL INFORMATION
IN A NUTSHELL . . .

RELATED JOBS. Secretary; administrative secretary.

SECRETARY [CSA -- Holland Code]

NATURE OF WORK. Schedules appointments, gives information to callers, takes dictation, performs clerical work of minor administrative and business detail.

EMPLOYMENT TRENDS. A rapid increase in employment is expected in Michigan, although the increasing use of dictating machines will limit opportunities for office stenographers somewhat. Very good prospects for skilled shorthand reporters and secretaries.

Secretaries and Stenographers

	1970 employment	Annual openings to 1980	Projected 1980
Detroit area	54,050	6,460	----
Michigan	106,750	12,850	148,200

ESTIMATED SALARY. $450 - 800 per month.

ADMINISTRATIVE SECRETARY [ESC -- Holland Code]

NATURE OF WORK. Executes administrative policies determined by or in conjunction with other officials. Outlines and explains procedures and policies to supervisory workers and other personnel. May oversee secretarial and clerical personnel.

EMPLOYMENT TRENDS. See above.

ESTIMATED SALARY. $800 - 1,000 per month.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 71, General Catalog)

CENTER CAMPUS

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Executive Secretarial		
● 13 Certificate Core Courses	38	$679.95 - $692.50*
Associate of Applied Science Degree - Executive Secretarial		
● 13 Certificate Core Courses	38	$679.95 - $692.50*
● 2 Associate Degree Core Courses	6	$103.90 - $108.90*
● General Education	20	[see Index]
● Physical Education	2	[see Index]
	66	

CERTIFICATE CORE COURSES - EXECUTIVE SECRETARIAL	SEM HRS
BCO 204 Business Correspondence	3
BMA 101 Business Math	3
OFF 102 Office Machines	3
OFF 104 Records Management	3
OFF 200 Personal Development	2
SHD 228 Shorthand Transcription	3
OFF 231 Office Practice	3
SHD 126, 127, or 228 Shorthand	3
SHD 127, or 229 Shorthand	3
SHD 229 Shorthand Speedbuilding	3
TYP 116, 117, or 218 Typing	3
TYP 218 Typing	3
TYP 117, or 218 Typing	3
	38

ASSOCIATE DEGREE CORE COURSES - EXECUTIVE SECRETARIAL	SEM HRS
ACC 101 Principles of Accounting	3
BUS 225 Cooperative Education or elective	3

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

SOUTH CAMPUS

REQUIREMENTS	SEM HRS	ESTIMATED COSTS (tuition/fees, books & supplies)
Certificate in Applied Science - Executive Secretarial		
● 10 Certificate Core Courses	30	$557.65
Associate of Applied Science Degree - Executive Secretarial		
● 10 Certificate Core Courses	30	$557.65
● 3 of the 7 Associate Degree Core Courses	9-11	[see Index]
● Electives	5-8	[see Index]
● General Education	16	[see Index]
	62	

CERTIFICATE CORE COURSES - EXECUTIVE SECRETARIAL STUDIES		SEM HRS
TYP 218	Advanced Typewriting	3
BMA 101	Business Mathematics	3
OFF 104	Records Management	3
OFF 200	Personal Development	2
OFF 102	Office Machines	3
BCO 205	Business Communications	4
OFF 231	Office Practice	3
SHD 228	Shorthand Transcription	3
OFF 232	Office Procedures & Administration	3
SHD 229	Shorthand Speed Building	3
		30

ASSOCIATE DEGREE CORE COURSES - EXECUTIVE SECRETARIAL STUDIES

Three of the following courses:

		SEM HRS
ACC 100 or 108	Accounting	4
BUS 108	Business Law I	4
BUS 101	Introduction to Business	3
MGT 120	Office Management	3
MKT 101	Principles of Marketing	3
OFF 250	Office Cooperative Internship	3
TYP 219	Automatic Typewriting Systems	3
		9-11

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1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Center Campus

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
19	9	9	0	0	$250-800	$648

6 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$500-785	$650

3 Grads Report Working Full-Time/Unrelated Field	
Earning Range	Median Salary
$250-800	$500

South Campus

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
29	28	24	1	3	$460-925	$628

23 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$460-925	$628

2 Grads Report Working Full-Time/Unrelated Field	
Earning Range	Median Salary
$560-925	$743

GENERAL BUSINESS (South and Center Campuses)

OCCUPATIONAL INFORMATION IN A NUTSHELL . . .

[NOTE: Due to the extremely wide range of related jobs in the area of business and the space limitations of this publication, occupational information of the type included under other programs has not been published. For more information concerning employement opportunities you are urged to consult the Counseling Office and the Career Resources Center. Macomb County Community College.]

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 73, General Catalog)

CENTER CAMPUS

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - General Business		
• 5 Certificate Core Courses	16	$309.45 - $314.45
• Business Related Electives	18	[see Index]
	34	
Associate of Applied Science Degree - General Business		
• Certificate Core Courses (includes Business related electives)	34	[$309.45 - $314.45*
• General Electives	6	[see Index]
• General Education Core	20	[see Index]
• Physical Education	2	[see Index]
	62	

CERTIFICATE CORE COURSES - GENERAL BUSINESS	SEM HRS
ACC 101 Principles of Accounting I	3
BUS 101 Introduction to Business	3
BUS 108 Business Law I	4
MGT 101 Principles of Management	3
MKT 101 Principles of Marketing	3
Business Related Electives	18
	34

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* This amount is an underestimate. It was not possible to estimate the cost of Business Related Electives.

SOUTH CAMPUS

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - General Business		
• 7 Certificate Core Courses	25	$467.50 - $479.90
• Minimum of 8-9 semester hours in one of the following areas: Accounting, Business Data Processing, Management/Marketing, or Secretarial/Clerical	8-9	[see Index]
	33-34	
Associate of Applied Science - General Business		
• 7 Certificate Core Courses	25	$467.50 - $479.90
• 8-9 semester hours in one of the following areas: Accounting, Business Data Processing, Management/Marketing, or Secretarial/Clerical	8-9	[see Index]
• Electives	12-13	[see Index]
• General Education	16	[see Index]
	62	

CERTIFICATE AND ASSOCIATE DEGREE CORE COURSES - GENERAL BUSINESS	SEM HRS
BUS 101 Introduction to Business	3
BDP 101 Computer & Data Processing Principles	4
MGT 101 Principles of Management	3
MKT 101 Principles of Marketing	3
ACC 100/108 Accounting	4
BUS 108 Business Law I	4
BCO 205 Business Communications	4
	25

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1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Center Campus

Grad in the Program	Employable Grad Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
3	2	2	0	0		

1 Grad Reports Working Full-Time/Related Field
Salary
$520

South Campus

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
17	13	12	0	1	$886-1617	$1225

7 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$1200-1617	$1330

5 Grads Report Working Full-Time/Unrelated Field	
Earning Range	Median Salary
$886-975	$900

LEGAL SECRETARIAL STUDIES (South Campus only)

OCCUPATIONAL INFORMATION
IN A NUTSHELL . . .

LEGAL SECRETARY [CSE--Holland Code]

NATURE OF WORK. Stenographic work. Schedules appointments, gives information to callers, maintains law library and court docket or suit register, follows office cases on court calendars. Performs minor administrative and business detail tasks.

EMPLOYMENT TRENDS. Rapid increase in employment is expected.

	1970 employment	Annual openings to 1980	Projected 1980
Detroit area	1,500	260	----
Michigan	2,850	500	4,900

ESTIMATED SALARY. The range of salaries is wide and dependent upon the type of law practice, size of firm and location. Beginning $550-650 per month; experienced (2 or more years) $800-1,100 per month.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 76, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Legal Secretarial		
• 13 Certificate Core Courses	39	$724.45*
Associate of Applied Science Degree - Legal Secretarial		
• 13 Certificate Core Courses	39	$724.45*
• At least one of the Associate Degree Core Courses	3-4	$ 43.50 - $78.40
• Electives	3-4	[see Index]
• General Education	16-17	[see Index]
	62	

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

CERTIFICATE CORE COURSES - LEGAL SECRETARIAL STUDIES	SEM HRS
TYP 218 Advanced Typewriting	3
BMA 101 Business Mathematics	3
OFF 104 Records Management	3
OFF 200 Personal Development	2
BCO 205 Business Communications	4
SHD 228 Shorthand Transcription	3
SHD 229 Shorthand Speed Building	3
BUS 108 Business Law I	4
PLT 200 Michigan Legal System	2
TYP 219 Automatic Typewriting Systems	3
SHD 266 Legal Shorthand/Transcription	3
TYP 267 Legal Typewriting	3
OFF 268 Legal Secretarial Practices	3
	39

ASSOCIATE DEGREE CORE COURSES - LEGAL SECRETARIAL STUDIES	SEM HRS
At least one of the following courses:	
OFF 250 Office Cooperative Internship	3
OFF 102 Office Machines	3
BUS 109 Business Law II	4
ACC 100/108 Accounting	4
	3-4

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1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
11	9	7	2	0	$500-889	$650

5 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$500-889	$650

2 Grads Report Working Full-Time/Unrelated Field	
Earning Range	Median Salary
$630-875	$753

MARKETING (South and Center Campuses)

OCCUPATIONAL INFORMATION IN A NUTSHELL . . .

RELATED JOBS. Salesworker; buyer.

SALESWORKER [ESC--Holland Code]

NATURE OF WORK. Deals directly with customers on sales floor or by phone. May display merchandise using samples or catalogs and/or demonstrates article. Prepares forms and sales contracts, and may collect payment for products sold. May install equipment and instruct buyer in use or operation.

EMPLOYMENT TRENDS. Employment expected to grow about as fast as average for all occupations as volume of sales rises and stores continue to remain open longer. Good opportunities for full-time, part-time, and temporary employment due to growth and high replacement needs.

SALESWORKER

	1970 employment	Annual openings to 1980	Projected 1980
Detroit area	8,850	730	----
Michigan	19,800	1,620	28,800

ESTIMATED SALARY. Varies widely with job and location.

BUYER [ECS--Holland Code]

NATURE OF WORK. Purchases merchandise for resale. Selects and orders merchandise basing selection on nature of clientele, demand for specific merchandise, and experience as buyer. May price items for resale.

EMPLOYMENT TRENDS. Employment expected to grow faster than average for all occupations as retailers place greater emphasis on the selection of goods for sale. However, keen competition anticipated as merchandising attracts large numbers of college graduates.

BUYER

	1970 employment	Annual openings to 1980	Projected 1980
Detroit	3,000	220	----
Michigan	6,150	460	8,200

ESTIMATED SALARY. Not available.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 77, General Catalog)

CENTER CAMPUS

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Marketing		
• 9 Certificate Core Courses	28	$524.15 - $529.15
Associate of Applied Science Degree - Marketing		
• 9 Certificate Core Courses	28	$524.15 - $529.15
• 3 Associate Degree Core Courses	0	$162.50*
• General Education	20	[see Index]
• Electives	2	[see Index]
• Physical Education	2	[see Index]
	62	

CERTIFICATE CORE COURSES - MARKETING	SEM HRS
ACC 101 Principles of Accounting I	3
BMA 101 Business Math	3
BUS 101 Introduction to Business	3
BUS 108 Business Law I	3
MKT 101 Principles of Marketing	3
MKT 102 Principles of Retailing	3
MKT 201 Salesmanship	3
MKT 202 Advertising	4
MGT 101 Principles of Management	3
	28

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

ASSOCIATE DEGREE CORE COURSES - MARKETING	SEM HRS
BDP 101 Computer and Data Processing Principles	4
BUS 103 Law for the Consumer	3
BUS 255 Cooperative Education or elective	3
	10

SOUTH CAMPUS

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Marketing		
● 10 Certificate Core Courses	31-35	$571.20 - $602.05*
Associate of Applied Science Degree - Marketing		
● 10 Certificate Core Courses	31-35	$571.20 - $602.05*
● Electives	11-15	[see Index]
● General Education	16	[see Index]
	62	

	CERTIFICATE CORE COURSES - MARKETING	SEM HRS
	MKT 101 Principles of Marketing	3
** †	MKT 102 Principles of Retailing	3
†	MKT 201 Salesmanship	3
†	MKT 202 Advertising	3
	MGT 101 Principles of Management	3
**	ACC 100/108 Accounting	4
	BUS 101 Introduction to Business	3
**	ECO 116 Principles of Economics	3
	BCO 205 Business Communications	4
	And one of the following:	
	BUS 250 Business Cooperative Internship	3-6
	BUS 260 Business Directed Study	2-4
	BUS 270 Business Externship Seminar	3-6
	MKT 205 Marketing Problems	3
		31-35

** Fashion Merchandising Option: Interested students may substitute the following block of specialized courses for the required courses above that are marked with asterisks.

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

MKT 210 History of Fashion 3
MKT 211 Fashion Merchandising...............................3
MKT 212 Textiles and Non-Textiles............................3
MKT 213 Fashion Illustration & Current Trends.................3
OFF 200 Personal Development...............................2

† Purchasing Specialty Option: Interested students may substitute the following block of specialized courses for the required courses above that are marked with a dagger.

MKT 204 Principles of Purchasing.............................3
SUM 230 Production Control-Critical Path Method
of Planning...2
SUM 231 Traffic Management..................................2
ACC 109 Prinicples of Accounting II..........................4

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1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Center Campus

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
13	7	6	1	0	$475-1400	$1125

6	Grads Report Working Full-Time/Related Field
Earning Range	Median Salary
$475-1400	$1125

South Campus

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
22	18	14	1	3	$405-1650	$968

6 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$600-1161	$900

8 Grads Report Working Full-Time/Unrelated Field	
Earning Range	Median Salary
$405-1650	$975

MEDICAL SECRETARY (Center Campus only)

OCCUPATIONAL INFORMATION IN A NUTSHELL . . .

MEDICAL SECRETARY [CSA--Holland Code]

NATURE OF WORK. Prepares case histories, medical charts and reports for doctor or hospital personnel, utilizing knowledge of medical terminology. May prepare and send bills to patients and record appointments. Performs other secretarial and clerical duties.

EMPLOYMENT TRENDS. Very rapid increase in employment expected.

	1970 employment	Annual openings to 1980	Projected 1980
Detroit area	1,300	210	----
Michigan	2,850	450	4,750

ESTIMATED SALARY. $450-800 per month.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 79, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Medical Secretary		
● 13 Certificate Core Courses	39	$710.40 - $728.20
Associate of Applied Science Degree - Medical Secretary		
● 13 Certificate Core Courses	39	$710.40 - $728.20
● 2 Associate Degree Core Courses	5	$ 72.50*
● General Education	22	[see Index]
● Physical Education	2	[see Index]
	68	

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

CERTIFICATE CORE COURSES - MEDICAL SECRETARY	SEM HRS
BCO 204 Business Correspondence	3
OFF 104 Records Management	3
OFF 140 Medical Terminology	3
OFF 231 Office Practice	3
OFF 241 Medical Office Practice	3
OFF 242 Medical Office Procedures	3
SHD 126, 127, or 228 Shorthand	3
SHD 228 Transcription	3
SHD 127 or 229 Shorthand	3
SHD 229 Shorthand Speedbuilding	3
TYP 116, 117, or 218 Typing	3
TYP 218 Advanced Typing	3
TYP 117, or 218 Typing	3
	39-42

ASSOCIATE DEGREE CORE COURSES - MEDICAL SECRETARY	SEM HRS
BUS 255 Cooperative Education or elective	3
OFF 200 Personal Development	2
	5

* * *

1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
22	14	11	1	1	$400-718	$580

10 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$400-662	$577

1 Grad Reports Working Full-Time/Unrelated Field
Salary
$718

PARA-LEGAL TECHNOLOGY (South Campus only)

OCCUPATIONAL INFORMATION IN A NUTSHELL . . .

RELATED JOBS. Para-legal technician; legal assistant; legal service assistant; reasearch aide; corporate, welfare, or contract specialist; litigation assistant; legal clerk.

PARA-LEGAL TECHNICIAN [EAS--Holland Code]

NATURE OF WORK. Lends direct assistance to lawyers engaged in legal research; searches for and studies legal records and documents. Prepares rough drafts of briefs or arguments. Files pleadings with courts; prepares affidavits of documents; keeps document file and correspondence of cases. Does not practice law. May perform routine and repetitive chores.

EMPLOYMENT TRENDS. Not available. However, statistics indicate two graduating lawyers competing for each job opening, which will in turn have an unfavorable effect on employment possibilities for community college trained legal assistants already faced with competition from paraprofessionals with four-year degrees and legal secretaries upgrading their positions.

ESTIMATED SALARY. Not available.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 81, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Para-Legal Technology		
• 12 Certificate Core Courses	41	$685.10 - $696.35*
Associate of Applied Science Degree - Para-Legal Technology		
• 12 Certificate Core Courses	41	$685.10 - $696.35*
• Electives	5	[see Index]
• General Education	16	[see Index]
	62	

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

CERTIFICATE CORE COURSES - PARA-LEGAL TECHNOLOGY	SEM HRS
ACC 100/108 Accounting	4
BCO 205 Business Communications	4
BUS 108 Business Law I	4
BUS 109 Business Law II	4
PLT 215 Advanced Business Law	4
BDP 101 Computer and Data Processing Principles	4
PLT 200 Michigan Legal System	2
PLT 208 Techniques of Legal Practice & Procedure I	4
PLT 210 Mechanics of Real Estate Law	3
PLT 211 Principles of Family Law	2
PLT 209 Techniques of Legal Practice & Procedure II	4
PLT 212 Administration of Estates	2
	41

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1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
22	14	10	3	1	$600-1250	$823

8 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$600-1250	$823

2 Grads Report Working Full-Time/Unrelated Field
Salary
$1000

REAL ESTATE (Center Campus only)

OCCUPATIONAL INFORMATION IN A NUTSHELL . . .

REAL ESTATE SALESWORKER/BROKER [ECS--Holland Code]

NATURE OF WORK. Salesworkers represent property owners in renting, buying, and selling property on a commission basis. Brokers own real estate companies and may further assist customers with title searches, deeds, leases, mortgages, and with negotiating loans to finance purchases. Real estate salesworkers and brokers must be licensed in Michigan.

EMPLOYMENT TRENDS. Employment expected to increase about as fast as average for all occupations in response to growing demand for housing and other properties. However, highly competitive nature of occupation will result in many beginners having to transfer to other fields of work after short period of time.

	1970 employment	Annual openings to 1980	Projected 1980
Detroit area	6,300	330	----
Michigan	11,750	610	12,350

ESTIMATED SALARY. $12,000-13,000 by commission, depending on experience.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 83, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books and supplies)
Certificate in Applied Science - Real Estate		
• 6 Certificate Core Courses.........	19	.............$366.70 - $374.40
Associate of Applied Science Degree - Real Estate		
• 6 Certificate Core Courses.........	19	.............$366.70 - $374.40
• 6 Associate Degree Core Courses....	19	.............$326.35 - $331.35*
• General Education..................	20	.............[see Index]
• Electives..........................	3	.............[see Index]
• Physical Education.................	2	.............[see Index]
	63	

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

CERTIFICATE CORE COURSES - REAL ESTATE	SEM HRS
RES 111 Real Estate Principles	3
RES 121 Residential Building Construction	3
RES 231 Real Estate Appraisal	3
RES 241 Real Estate Finance	3
RES 251 Real Estate Law	4
BMA 101 Business Math	3
	19

ASSOCIATE DEGREE CORE COURSES - REAL ESTATE	SEM HRS
ACC 101 Principles of Accounting I	3
BUS 103 Law for the Consumer	3
BUS 108 Business Law I	4
BUS 255 Cooperative Education or elective	3
MKT 101 Principles of Marketing	3
MKT 201 Salesmanship	3
	19

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1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
16	8	7	0	1	$1000-2000	$1270

5 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$1000-2000	$1635

2 Grads Report Working Full-Time/Unrelated Field
Salary
$1080

GENERAL EDUCATION/LIBERAL ARTS/TRANSFER COURSES

(offered at both Center and South Campuses)

OCCUPATIONAL INFORMATION IN A NUTSHELL . . .

Many post high school programs, particularly those offered by community colleges, are not specifically job-oriented, but prepare students to enter a wide variety of occupations or prepare them to transfer the first two years of a baccalaureate degree to a four-year institution. While this may provide somewhat greater occupational flexibility, enabling the student to be retrained quickly for a wide variety of jobs during times of rapid change, it may also make career choices much more complex. Many fields are overcrowded at the present time; anyone deciding to pursue a general liberal arts education should evaluate job market trends carefully and discuss employment options early with a trained counselor. The following table lists some of the many occupational alternatives for liberal arts majors. However, due to the great range of possible employment areas, specific occupational information of the type provided under other programs (e.g. nature of work) has not been published here.

BIOLOGICAL SCIENCES

Dietician
Drug Inspector
Farmer
Forester
Landscape Gardner
Laboratory Technician
Medical Illustrator
Museum Worker
Science Information Specialist
Technical Writer

ENGLISH

Community Worker
Copywriter
Correspondent
Journalist
Editor
Insurance Agent
Library Worker
Management Trainee
Personnel Worker
Technical Writer

MATHEMATICS

Accounting staff
Actuary
Bank Trainee
Computer Programmer
Economic Analyst
Insurance Analyst
Management Trainee
Appraiser
Statistician

ECONOMICS

- Accounting staff
- Bank Trainee
- Business Publicity Editor
- Economic Analyst Trainee
- Highway Planning Trainee
- Management Trainee
- Market Research
- Marketing
- Purchasing Agent
- Real Estate
- Stock Broker
- Technical Writer

FOREIGN LANGUAGES

- Advertising/Overseas
- Airlines Personnel
- Interpreter
- Translator
- Export/Import Sales
- Foreign Specialist
- Foreign Correspondent
- Foreign Dept./Bank
- Library Worker
- Social Worker
- Travel Agent
- U. N. Guide

PHYSICAL SCIENCES

- Accoustical Engineer
- Assayer
- Electrician
- Laboratory Technician
- Patent Examiner
- Radio Engineer
- Sanitarian
- Technical Librarian
- Textbook Editor
- FDA Inspector

EDUCATION

- Library Worker
- Manpower Development Worker
- Museum Tour Guide
- Personnel Worker
- Prison Counselor
- Rehabilitation Worker
- School Counselor
- School Psychologist
- School Social Worker
- Textbook Editor

HISTORY

- Antiques Director
- Archivist
- Foreign Specialist
- Foreign Service Staff
- Historical Museum Worker
- Politician
- Technical Writer
- Editor
- Tour Guide

POLITICAL SCIENCE

- Administrative Trainee
- City Manager
- Civil Rights Worker
- Congressional Staff
- Journalist
- Lobbyist
- Management Trainee
- Political Worker
- Urban Planner
- Library Worker

PSYCHOLOGY

- Adoption Worker
- Advertising
- Community Organization Worker
- Management Trainee
- Market Research
- Personnel Worker
- Probation Officer
- Psychometrist
- Recreation Worker
- Survey Research
- School Counselor
- Vocational Counselor

SOCIOLOGY

- Civil Rights Worker
- Juvenile Court Worker
- Management Trainee
- Parole Officer
- Recreation Worker
- Personnel Worker
- Urban Planner

PROGRAM REQUIREMENTS AND COSTS . . .
(See pp. 57-58, General Catalog)

Many different combinations of courses and specialties are possible in the area of general education/liberal arts. (For specific information on course requirements for certificates and associate degrees at Macomb County Community College, see pp. 40-41.) If you plan to complete the first half of a bachelor's degree program at Macomb and then transfer to a four-year college or university, you should carefully plan the courses you take at Macomb with one of our counselors. Admissions and transfer requirements vary considerably from one four-year school to another. Poor planning on your part could result in the loss of credit, delay in graduation and added expense. With the exception of the Certificate in General Studies and the Certificate in Behavioral Sciences (see p. 41) there are no specific programs in general education/liberal arts. Costs, therefore, would have to be computed on an individual course basis. To do so, first determine the course or courses you might wish to take and then check the Index of Courses, p. 179, for costs.

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1974-75 GRADUATE EMPLOYMENT REPORT SUMMARY . . .

Center Campus

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
124	32	21	5	6	$300-1,800	$662

7 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$500-1,300	$625

14 Grads Report Working Full-Time/Unrelated Field	
Earning Range	Median Salary
$300-1,800	$700

South Campus

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
365	190	132	26	32	$240-2,000	$1,000

41 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$240-1,800	$900

91 Grads Report Working Full-Time/Unrelated Field	
Earning Range	Median Salary
$368-2,000	$1,000

INDUSTRIAL TECHNOLOGY AND RELATED PROGRAMS

[offered only at South Campus]

Architechtural Drafting
Auto Body Design
Aviation Mechanics Technology
Civil Technology
Climate Control Technology
Electro Technology
Fluid Power Technology
Graphic & Commercial Art
Industrial Supervision & Management
Industrial Labor Studies
Metallurgical Science Technology
Metals Machining Technology
Metrology & Calibration Technology
Numerical Control Technology
Printing Technology
Radio-TV-Sound Repair
  (Electronic Service Technology)
Special Machine Design
Surveying Technology
Tool, Fixture and Die Design
Typesetting and Copy Preparation
Welding Technology

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1974-75 GRADUATE EMPLOYMENT REPORT SUMMARY . . .

Grads in the Programs	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
151	128	114	4	10	$500-1900	$1208

103 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$500-1900	$1250

11 Grads Report Working Full-Time/Unrelated Field	
Earning Range	Median Salary
$500-1650	$840

ARCHITECTURAL DRAFTING (South Campus only)

OCCUPATIONAL INFORMATION
IN A NUTSHELL . . .

ARCHITECTURAL DRAFTER [RIA--Holland Code]

NATURE OF WORK. Prepares clear plans and detail drawings from rough or detailed sketches or notes of architectural and structural features of buildings and similar structures. Makes engineering computations involved in the strength of material, beams, and trusses. Estimates quantities needed for projects and computes cost estimates.

EMPLOYMENT TRENDS. Moderate increase.

ESTIMATED SALARY. Starting $140/week; 2-years experience $160-260/week; supervisor $245-330/week.

****

PROGRAM REQUIREMENTS AND COSTS . . .
(see page 64, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Architectural Drafting (Residential Drafting)		
● 8 Core Courses	21	$469.50 - $484.10*
Certificate in Applied Science - Architectural Drafting (Commercial Drafting)		
● 8 Core Courses	21	$469.50 - $484.10*
● 5 Specialty 1 Courses	15	$273.95
	36	$743.45 - $758.05*
Certificate in Applied Science - Architectural Drafting (Civil Drafting Technician)		
● 8 Core Courses	21	$469.50 - $484.10*
● 6 Specialty 2 Courses	18	$347.95*
	39	$817.45 - $832.05*

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* This amount is an underestimate. At the time of printing some testbook and/or supply costs were not known.

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Architectural Drafting (Materials Handling Detailer)		
• 8 Core Courses	21	$469.50* - $484.10*
• 6 Specialty 3 Courses	18	$284.95
	39	$754.45 - $769.05
Associate of Applied Science Degree - Architectural Drafting		
• 8 Core Courses	21	$469.50 - $484.10*
• Electives (5) from Specialty Courses	15	[see Index]
• General Education	16	[see Index]
• Electives from Suggested Elective Areas	7-10	[see Index]
• Other Electives	0-3	[see Index]
	62	
Associate of Applied Science Degree - Architectural Drafting (Architectural Design)		
• 8 Core Courses	21	$469.50 - $484.10*
• 5 Specialty 1 Courses	15	$273.95
• General Education	16	[see Index]
• Electives from Suggested Elective Areas	7-10	[see Index]
• Other Electives	0-3	[see Index]
	62	
Associate of Applied Science Degree - Architectural Drafting (Civil Construction Specialty)		
• 8 Core Courses	21	$469.50 - $484.10*
• 6 Specialty 2 Courses	18	$347.95*
• General Education	16	[see Index]
• Electives from Suggested Elective Areas	7-10	[see Index]
	62-65	

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Associate of Applied Science Degree - Architectural Drafting (Materials Handling Design Specialty)		
• 8 Core Courses	21	$469.50 - $484.10*
• 6 Specialty 3 Courses	18	$284.95
• General Education	16	[see *Index*]
• Electives from Suggested Elective Areas	7-10	[see *Index*]
	62-65	

ASSOCIATE DEGREE CORE COURSES - ARCHITECTURAL DRAFTING	SEM HRS
DAC 110 Perspective Drawing and Visualization	2
DAC 118 Architectural Drafting I	3
DAC 119 Architectural Drafting II	3
DAC 220 Design Elements of Environmental Control Systems	3
DAC 210 Structural Drafting	2
CIV 211 Applied Building Construction	3
DAC 221 Building Specifications	3
DAC 121 Architectural Design Procedures	2
	21

Specialty I - Architectural Design

DAC 120 History of Architecture	3
DST 125 Descriptive Geometry	3
DAC 218 Architectural Drafting III	3
DAC 219 Architectural Drafting IV	3
DAC 211 Structural Drafting II	3
	15

Specialty II - Civil Construction

CIV 100 Materials	3
CIV 110 Construction Methods and Equipment	3
CIV 220 Soils and Foundations	3
CIV 210 Strength of Materials	3
CIV 212 Reinforced Concrete Construction	3
SUR 110 Elementary Surveying	3
	18

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

ASSOCIATE DEGREE CORE COURSES - ARCHITECTURAL DRAFTING	SEM HRS
Specialty III - Materials Handling Design	
DST 125 Descriptive Geometry	3
DAC 122 Materials Handling Survey	3
DAC 123 Plant Layout	3
DAC 222 Controls Circuit Design	3
DAC 223 Conveyor Detail and Design	3
DAC 211 Structural Drafting II	3
	18

Suggested Elective Areas:

Surveying
Climate Control
Civil Technology
Graphic and Commercial Art
Business Law
Drafting

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1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
11	7	5	2	0	$624-1641	$750

2 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$624-700	$662

3 Grads Report Working Full-Time/Unrelated Field	
Earning Range	Median Salary
$800-1641	$1221

AUTO BODY DESIGN (South Campus only)

OCCUPATIONAL INFORMATION
IN A NUTSHELL . . .

AUTO BODY DESIGN DRAFTER [RIE--Holland Code]

NATURE OF WORK. Draws details on full-scale automobile master designs drawn by auto body designer. Computes and determines detailed additions to specifications of designer for body components. Copies surface design and superimposes designs of body components on full-scale master plate.

EMPLOYMENT TRENDS. Specifically not available. However, employment expected to increase faster than average for all drafting occupations as more drafters will be needed to support growing number of scientists and engineers. Also, increasingly complex design problems require additional drafters. Best opportunities for holders of associate degrees in drafting.

	1970 employment	Annual openings to 1980	Projected 1980
Detroit Area	12,900	590	----
Michigan	19,300	890	25,500

ESTIMATED SALARY. Starting $525 per month; senior drafter $960 per month.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 66, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate of Applied Science - Auto Body Design		
● 6 Core Courses	17	$357.10 - $363.85*

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Associate of Applied Science Degree - Auto Body Design		
● 6 Core Courses	17	$357.10 - $363.85*
● 12 Specialty Courses	19	$626.20*
● General Education	16	[see Index]
● Electives from Suggested Elective Areas	10	[see Index]
	62	

CERTIFICATE AND ASSOCIATE DEGREE CORE COURSES - AUTO BODY DESIGN	SEM HRS
DST 111 Drafting Practices	4
DST 125 Descriptive Geometry	3
DAB 151 Body Blueprint Reading	2
DAB 206 Body Detailing	3
DAB 207 Surface Development	2
DAB 208 Body Layout	3
	17

Specialty Courses	
DTF 200 Panel Tipping	2
DTF 121 Die Theory	2
DTF 228 Die Design	3
DTF 236 Body Fixture Detail and Design	3
DTF 117 Jig and Fixture Detailing and Design	3
DST 116 Industrial Processes & Materials	4
NCT 238 N/C Graphics I	3
NCT 239 N/C Graphics II	3
MTH 210 Fortran Programming	3
NCT 100 Fundamentals of Numerical Control	2
NCT 116 Manual Programming for Numerical Control	3
DTF 237 Automatic Welding Equipment Design	3
	19

Suggested Elective Areas:

Drafting
Welding
Metals Machining
Industrial Cooperative Internship

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
8	5	5	0	0	$775-1600	$895

4 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$775-1600	$790

1 Grads Report Working Full-Time/Unrelated Field
Salary
$1000

AVIATION MECHANICS TECHNOLOGY (South Campus only)

OCCUPATIONAL INFORMATION
IN A NUTSHELL . . .

AVIATION MECHANIC [RIE--Holland Code]

NATURE OF WORK. May specialize in work on a particular part of the aircraft, such as propellers, landing gear, hydraulic equipment, communications and control equipment, instruments, or on sheet metal sections. Air Frame or Power Plant License is required by the FAA for maintenance mechanics, and Communications License (FCC) is required for electronic equipment servicemen.

EMPLOYMENT TRENDS. Employment expected to increase about as fast as average for all occupations, but opportunities in various areas of aviation will differ. Good opportunities in general aviation; keen competition for airline jobs; opportunities in Federal Government dependent upon defense spending; opportunities in general, will be good if there are no further fuel shortages.

	1970 employment	Annual openings to 1980	Projected 1980
Detroit Area	900	30	----
Michigan	1,500	50	1,780

ESTIMATED SALARY. Beginning $4-8.00 per hour; experienced $6-9.00 per hour

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 66, General Catalog)

AIRFRAME MECHANIC SPECIALTY

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Aviation Mechanics (Airframe)		
• 8 Core Courses	20	$360.00 - $399.00
• 12 Specialty I Courses	35	$600.50 - $688.50
	55	$960.50 - $1087.50

Associate of Applied Science Degree - Aviation Mechanics (Airframe)

• 8 Core Courses	20	$360.00 - $399.00
• 12 Specialty I Courses	35	$600.50 - $688.50
• General Education	16	[see Index]
	71	

POWERPLANT MECHANICS SPECIALTY

Certificate in Applied Science - Aviation Mechanics (Powerplant)

• 8 Core Courses	20	$360.00 - $399.00
• 12 Specialty II Courses	34	$611.50*
	54	$971.50 - $1010.50*

Associate of Applied Science Degree - Aviation Mechanics (Powerplant)

• 8 Core Courses	20	$360.00 - $399.00
• 12 Specialty II Courses	34	$611.50*
• General Education	16	[see Index]
	70	

CERTIFICATE AND ASSOCIATE DEGREE CORE COURSES - AVIATION MECHANICS	SEM HRS
APM 111 Basic Electricity	3
APM 112 Mathematics	2
APM 113 Basic Physics, Aerodynamics, and Weight and Balance	3
APM 114 Materials and Processes	3
APM 115 Aircraft Drawing	2
APM 116 Maintenance Forms and Mechanic Certification	2
APM 117 Cleaning and Corrosion Control	2
APM 118 Tests, Preparation and Practice	3
	20

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

CERTIFICATE AND ASSOCIATE DEGREE CORE COURSES - AVIATION MECHANICS

Specialty I - Airframe Mechanic

	SEM HRS
Airframe Structures	
AFM 211 Repair of Wood, Fabric and Finishing	3
AFM 212 Sheet Metal I	3
AFM 214 Sheet Metal II	3
AFM 213 Aircraft Welding	2
AFM 215 Assembly and Rigging, Inspection, Ground Operations and Service	5
Airframe Systems and Components	
AFM 221 Hydraulic and Pneumatic Systems, Fluid Lines and Fittings	3
AFM 222 Landing Gear Systems	3
AFM 223 Cabin Atmosphere Systems, Instrument Systems, Communications and Navigation Systems	3
AFM 224 Electrical Systems I	2
AFM 225 Electrical Systems II	2
AFM 227 Fuel, Ice, Rain Control, Position and Warning, Fire Protection Systems	3
AFM 228 Tests, Preparation and Practice (Systems and Components)	3
	35

Specialty II - Powerplant Mechanics

	SEM HRS
Powerplant Theory and Maintenance	
PPM 211 Reciprocating Engines I	3
PPM 212 Reciprocating Engines II	3
PPM 213 Reciprocating Egnines III, Engine Inspection	3
PPM 214 Lubrication Systems	3
PPM 215 Turbine Engines, Ground Operations and Service	3
Powerplant Systems and Components	
PPM 236 Engine Electric I, Fire Protection	2
PPM 237 Engine Electric II, Instrument Systems	2
PPM 232 Ignition Systems	3
PPM 234 Cooling, Induction and Exhaust Systems	3
PPM 233 Fuel Metering	3
PPM 235 Propellers	3
PPM 238 Tests, Preparation and Practice (Systems and Components)	3
	34

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1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
NOT AVAILABLE, NO KNOWN GRADUATES 1974-75						

CIVIL TECHNOLOGY (South Campus only)

OCCUPATIONAL INFORMATION IN A NUTSHELL . . .

CIVIL ENGINEERING TECHNICIAN [IRC--Holland Code]

NATURE OF WORK. Works in direct support of civil (or construction) engineers, utilizing theoretical knowledge of fundamental engineering, mathematical, or draft design principles in the construction and maintenance of structures and facilities, such as roads, railroads, airports, bridges, pipelines, powerplants, water and sewage systems, and waste disposal units.

EMPLOYMENT TRENDS. Employment is expected to grow faster than average as a result of growing needs of housing, industrial buildings, electric power generating plants, and transportation systems. Work on environmental pollution and energy self-sufficiency also will result in openings.

ESTIMATED SALARY. Not available.

POSSIBLE CAREER LADDER. Some engineering technicians with experience and post high school education may eventually be promoted to engineering positions. However, nearly all study engineering in a college or university for 4 or 5 years to obtain a BA degree.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 67, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Civil Technology		
• 5 Core Courses	13	$267.45
Certificate in Applied Science - Civil Technology (Highway Specialty)		
• 5 Core Courses	13	$267.45
• 8 Specialty I Courses	24	$721.05*
	37	$988.50*

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Civil Technology (Construction Specialty)		
● 5 Core Courses	13	$267.45
● 8 Specialty II Courses	23	$768.00 - $782.60*
	36	$1035.45 -$1050.05
Certificate in Applied Science - Civil Technology (Sanitation Specialty)		
● 5 Core Courses	13	$267.45
● 7 Specialty III Courses	25	$769.75 - $817.55*
	38	$1037.20 -$1085.00
Associate of Applied Science Degree - Civil Technology		
● 5 Core Courses	13	$267.45
● Electives from Specialty Courses	23-25	[see Index]
● General Education	16	[see Index]
● Electives from Suggested Elective Areas	10	[see Index]
	62-64	

CERTIFICATE AND ASSOCIATE DEGREE CORE COURSES - CIVIL TECHNOLOGY	SEM HRS
CIV 100 Materials	3
CIV 101 Civil Technology Seminar	1
CIV 110 Construction Methods and Equipment	3
CIV 111 Mechanics	3
CIV 210 Strength of Materials	3
	13
Specialty I - Highway Specialty	
CIV 220 Soils and Foundations	3
CIV 221 Drainage and Geology	3
CIV 212 Reinforced Concrete Construction	3
SUR 110 Elementary Surveying	3
SUR 220 Route Surveying	3
SUR 230 Land Surveying	3
DAC 221 Building Specifications	3
SUM 227 Product Estimating & Cost Determinations	3
	24

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

CERTIFICATE AND ASSOCIATE DEGREE CORE COURSES - CIVIL TECHNOLOGY

Specialty II - Construction Specialty	SEM HRS
CIV 220 Soils and Foundation	3
CIV 221 Drainage and Geology	3
CIV 211 Applied Building Construction	3
CIV 212 Reinforced Concrete Construction	3
DAC 118 Architectural Drafting I	3
DAC 210 Structural Drafting	2
DAC 220 Environmental Control Systems	3
DAC 221 Building Specifications	3
	23

Specialty III - Sanitation Specialty	SEM HRS
CIV 220 Soils and Foundations	3
CIV 221 Drainage and Geology	3
CHM 105 General Chemistry I	4
CHM 106 General Chemistry II	4
BIO 100 Biology	4
BIO 210 Microbiology	3
EVS 105 Environmental Science	4
	25

Suggested Elective Areas:

Biology
Drafting
Chemistry
Ind. Coop. Internship
Supervision and Management
Architectural Drafting

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1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
6	6	3	2	1	$1,100-1,445	$1,160

3 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$1,100-1,445	$1,160

CLIMATE CONTROL TECHNOLOGY (South Campus only)

OCCUPATION INFORMATION IN A NUTSHELL . . .

AIR CONDITIONING/REFRIGERATION/HEATING MECHANICS [REI--Holland Code]

NATURE OF WORK. Air conditioning, refrigeration, and heating mechanics install, repair, or service heating, refrigeration, or air conditioning units in residential, commercial, institutions, or industrial establishments. May install prefabricated systems and units or assemble the components of custom ones using layouts, blueprints, and schematics. May estimate costs and service requirements.

EMPLOYMENT TRENDS. Employment expected to increase rapidly for all occupations. Most openings for air conditioning and refrigeration mechanics. Employment of furnace installers and gas burner mechanics should follow growth trends in new construction, while employment of oil burner mechanics should grow as heating systems are serviced more frequently to conserve oil.

	1970 employment	Annual openings to 1980	Projected 1980
Detroit Area	2,000	180	----
Michigan	4,400	390	7,150

ESTIMATED SALARY. $4- 8.50 per hour. May have seasonal busy period.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 69, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Climate Control Technology (Air Conditioning, Heating, Refrigeration)		
● 13 Core Courses	37	$834.40

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Climate Control Technology (Air Conditioning)		
● 6 Specialty Courses	17	$388.05
Certificate in Applied Science - Climate Control Technology (Heating)		
● 7 Specialty Courses	20	$472.85
Certificate in Applied Science - Climate Control Technology (Refrigeration)		
● 5 Specialty Courses	14	$293.85
Associate of Applied Science Degree - Climate Control Technology		
● 13 Core Courses	37	$834.40
● General Education	16	[see Index]
● Electives	9	[see Index]
	62	

CERTIFICATE AND ASSOCIATE DEGREE CORE COURSES - CLIMATE CONTROL	SEM HRS
CCT 120 Fundamentals of Air Conditioning & Refrigeration	3
CCT 130 Refrigeration I	3
CCT 140 Air Conditioning I	3
CCT 150 Heating I	3
CCT 160 Duct Layout & Fabrication	3
CCT 170 Fundamentals of Controls	3
CCT 230 Refrigeration II	3
CCT 232 Refrigeration Code	2
CCT 240 Air Conditioning II	3
CCT 250 Heating II	3
CCT 252 Heating Code	2
CCT 255 Steam & Hot Water Heating	3
CCT 270 Advanced Controls	3
	37

SPECIALTY COURSES

Certificate in Climate Control (Air Conditioning)	
CCT 120 Fundamentals of Air Conditioning & Refrigeration	3
CCT 140 Air Conditioning I	3
CCT 160 Duct Layout & Fabrication	3
CCT 170 Fundamentals of Controls	3
CCT 232 Refrigeration Code	2
CCT 240 Air Conditioning II	3
	17

Certificate in Climate Control (Heating)	
CCT 120 Fundamentals of Air Conditioning & Refrigeration	3
CCT 150 Heating I	3
CCT 160 Duct Layout & Fabrication	3
CCT 170 Fundamentals of Controls	3
CCT 250 Heating II	3
CCT 252 Heating Code	2
CCT 255 Steam & Hot Water Heating	3
	20

Certificate in Climate Control (Refrigeration)	
CCT 120 Fundamentals of Air Conditioning & Refrigeration	3
CCT 130 Refrigeration I	3
CCT 170 Fundamentals of Controls	3
CCT 230 Refrigeration II	3
CCT 232 Refrigeration Code	2
	14

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1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
36	23	20	2	1	$640-1,800	$1,020

13 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$640-1,800	$1,040

7 Grads Report Working Full-Time/Unrelated Field	
Earning Range	Median Salary
$800-1,800	$1,000

ELECTRO TECHNOLOGY (South Campus only)

OCCUPATIONAL INFORMATION
IN A NUTSHELL . . .

ELECTRONICS TECHNICIAN [IRE--Holland Code]

NATURE OF WORK. Applies electronic theory, principles of electrical circuits, electrical testing procedures, engineering mathematics, physics, and related subjects to layout, build, test, troubleshoot, repair, and modify development and production electronic equipment. May work as technical product representative to customers (sales), in determination and solution of customer technical requirements or in field service/installation.

EMPLOYMENT TRENDS. Specifically not available. However, employment for engineering and science technicians expected to grow faster than average for all occupations as result of industrial expansion and increasingly important role of technicians in research and development. Favorable employment opportunities, particularly for graduates of postsecondary school technician training programs.

ESTIMATED SALARY. Wide variance depending on education, co-op experience, job responsibility, and employer type. For 2-year Associate Degree $7,500- 12,000.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 70, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Electro Technology		
• 7 Core Courses	24	$443.35
Certificate in Applied Science - Electro Technology (Industrial Electronics Specialty)		
• 7 Core Courses	24	$443.35
• 3 Specialty I Courses	9	$174.95
	33	$618.30

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Electro Technology (Communication Electronics Specialty)		
• 7 Core Courses	24	$443.35
• 3 Specialty II Courses	9	$155.45
	33	$598.80
Certificate in Applied Science - Electro Technology (Instrumentation Specialty)		
• 7 Core Courses	24	$443.35
• 3 Specialty III Courses	9	$171.15
	33	$614.50
Associate of Applied Science Degree - Electro Technology		
• 7 Core Courses	24	$443.35
• Two of the Following Specialties	18	[see Index]
• General Education	16	[see Index]
• Electives from Suggested Elective Areas	4	[see Index]
	62	

CERTIFICATE AND ASSOCIATE DEGREE CORE COURSES - ELECTRO TECHNOLOGY	SEM HRS
ELT 116 Electro Technology I	3
ELT 117 Electro Technology II	3
ELT 118 Electro Technology III	3
ELT 119 Electro Technology IV	3
TMT 116 Electro Mathematics I	4
TMT 117 Electro Mathematics II	4
TMT 120 Technical Physics	4
	24

Specialty I - Industrial Electronics

ELT 128 Industrial Electronics I	3
ELT 229 Industrial Electronics II	3
ELT 227 Logic Controls	3
	9

Specialty II - Communication Electronics

ELT 238 Communications Electronics I	3
ELT 239 Communications Electronics II	3
ELT 230 Communications Equipment Servicing	3
	9

CERTIFICATE AND ASSOCIATE DEGREE CORE COURSES - ELECTRO TECHNOLOGY

Specialty III - Instrumentation Specialty	SEM HRS
ELT 248 Instrumentation I	3
ELT 249 Instrumentation II	3
ELT 210 Electro Hydraulic Servo Systems	3
	9

Suggested Elective Areas:

Fluid Power
Metrology

Drafting
Industrial Cooperative Internship
Numerical Control

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1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
44	36	34	1	1	$436-1,600	$950

23 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$436-1,600	$950

11 Grads Report Working Full-Time/Unrelated Field	
Earning Range	Median Salary
$400-1,091	$963

FLUID POWER TECHNOLOGY (South Campus only)

OCCUPATIONAL INFORMATION IN A NUTSHELL . . .

FLUID POWER TECHNICIAN [RIC--Holland Code]

NATURE OF WORK. The fluid power technician specializes in the transmission and control of power througn hydraulics, pneumatics, fluidics, and servomechanisms. Maintains, controls, and repairs fluid power systems used in many phases of industry.

EMPLOYMENT TRENDS. Rapid increase. Detroit area and state of Michigan trends not available.

ESTIMATED SALARY. Average $7,700; experienced $10,000.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 72, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Fluid Power Technology (Mechano-Fluid Power Specialty)		
● 9 Specialty I Core Courses	27	$462.60 - $478.50*
Certificate in Applied Science - Fluid Power Technology (Electro-Fluid Power Specialty)		
● 9 Specialty II Core Courses	27	$467.35 - $473.25*
Associate of Applied Science Degree - Fluid Power Technology (Mechano-Fluid Power Specialty)		
● 9 Specialty III Core Courses	27	$462.60 - $478.50*
● General Education	16	[see Index]
● Electives	19	[see Index]
	62	

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Associate of Applied Science Degree - Fluid Power Technology (Electro-Fluid Power Specialty)		
• 9 Specialty II Core Courses	27	$467.35 - $473.25*
• General Education	16	[see Index]
• Electives	19	[see Index]
	62	

CERTIFICATE AND ASSOCIATE DEGREE CORE COURSES - FLUID POWER TECHNOLOGY	SEM HRS
Specialty I - Mechano-Fluid Power	
FPT 100 Fluid Power Fundamentals	3
FPT 110 Fluid Power Pumps & Compressors	3
FPT 111 Fluid Power Controls	3
FPT 112 Fluid Power Circuits	3
FPT 210 Fluidic Power Systems	3
FPT 220 Electro Hydraulics Systems	3
FPT 101 Fundamentals of Pneumatics	3
FPT 239 Pneumatic Circuits	3
FPT 290 Fluid Power Laboratory	3
	27
Specialty II - Electro-Fluid Power	
FPT 100 Fluid Power Fundamentals	3
FPT 110 Fluid Power Pumps & Compressors	3
FPT 111 Fluid Power Controls	3
FPT 112 Fluid Power Circuits	3
FPT 210 Fluidic Power Systems	3
ELT 210 Electro Hydraulics Servos	3
FPT 101 Fundamentals of Pneumatics	3
FPT 239 Pneumatic Circuits	3
FPT 290 Fluid Power Laboratory	3
	27

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

1974-75 GRADUATE EMPLOYMENT REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
7	6	5	1	0	$400-900	$628

3 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$549-900	$710

2 Grads Report Working Full-Time/Unrelated Field
Reported Salary
$400

GRAPHIC AND COMMERCIAL ART (South Campus only)

OCCUPATIONAL INFORMATION
IN A NUTSHELL . . .

RELATED JOBS. Commercial artist; graphic artist; photographer; interior designer.

COMMERICAL ARTIST [AIS--Holland Code]

NATURE OF WORK. Creates art work for newspapers, magazines, advertising agencies, and television studios. Uses skills in drawing, painting, photography, and composition. May prepare layouts of advertising, publicity, and illustrative copy.

EMPLOYMENT TRENDS. Talented and well-trained commercial artists may face competition for employment and advancement in most kinds of work. Those with only average ability and little specialized training will encounter keen competition and have limited advancement opportunities.

ESTIMATED SALARY. 2-years college $85-98/week; 4-years college $90-100/week; experienced $125-400/week.

INTERIOR DESIGNER [AIS--Holland Code]

NATURE OF WORK. Plans and designs room arrangements of furnishings, accessories, and color schemes for homes, offices, commercial, and institutional establishments. Estimates cost and amount of materials required. Selects and purchases furnishings, accessories and materials for clients.

EMPLOYMENT TRENDS. Competition for beginning jobs. Best opportunities for talented college graduates who majored in interior design and graduates of professional schools of interior design. Those with less talent or without formal training are likely to face increasingly keen competition.

ESTIMATED SALARY. Starting Associate Degree--$85-125/week, BA Degree--$125-150/week; with experience and skill up to $25,000/year.

PHOTOGRAPHER [AIR--Holland Code]

NATURE OF WORK. Performs artistic and technical operations using a variety of camera and development equipment.

EMPLOYMENT TRENDS. Employment expected to grow about as fast as average for all occupations. Good opportunities in technical fields such as scientific and industrial photography. Portrait and commercial photographers are likely to face keen competition.

	1970 employment	Annual openings to 1980	Projected 1980
Detroit Area	1,400	80	----
Michigan	2,550	150	3,350

ESTIMATED SALARY. Starting $100-150/week.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 74, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Graphic & Commercial Art (Commercial Art Specialty)		
● 7 Core Courses	21	$369.10
● 5 Specialty I Courses	15	$252.50
	36	$621.60
Certificate in Applied Science - Graphic & Commercial Art (Interior Design Specialty)		
● 7 Core Courses	21	$369.10
● 7 Specialty II Courses	21	$397.85 - $423.30*
	42	$766.95 - $792.40*
Certificate in Applied Science - Graphic & Commercial Art (Technical Illustration Specialty)		
● 7 Core Courses	21	$369.10
● 5 Specialty III Courses	15	$252.50*
	36	$621.60*

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Graphic & Commercial Art (Photography Specialty)		
• 7 Core Courses	21	$369.10
• 6 Specialty IV Courses	18	$326.00
	39	$695.10
Associate of Applied Science Degree - Graphic & Commerical Art (Commercial Art Specialty)		
• 7 Core Courses	21	$369.10
• 5 Specialty I Courses	15	$252.50
• General Education	16	[see Index]
• Electives	10	[see Index]
	62	
Associate of Applied Science Degree- Graphic & Commercial Art (Interior Design Specialty)		
• 7 Core Courses	21	$369.10
• 7 Specialty II Courses	21	$397.85 - $423.30*
• General Education	16	[see Index]
• Electives	4-10	[see Index]
	64-68	
Associate of Applied Science Degree - Graphic & Commercial Art (Technical Illustration Specialty)		
• 7 Core Courses	21	$369.10
• 5 Specialty III Courses	15	$252.50*
• General Education	16	[see Index]
• Electives	10	[see Index]
	62	
Associate of Applied Science Degree - Graphic & Commercial Art (Photography Specialty)		
• 7 Core Courses	21	$369.10
• 6 Specialty IV Courses	18	$326.00
• General Education	16	[see Index]
• Electives	7	[see Index]
	62	

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* This amount is an understimate. At the time of printing some textbook and/or supply costs were not known.

CERTIFICATE AND ASSOCIATE DEGREE CORE COURSES - GRAPHIC AND COMMERCIAL ART

		SEM HRS
GCA 101	Perspective and Parallel Line Projection	3
GCA 102	Design I	3
GCA 104	Illustration Fundamentals	3
GCA 105	Keyline	3
GCA 106	Photography I	3
GCA 107	Rendering I	3
GCA 109	Figure Illustration I	3
		21

Specialtv I - Commercial Art

GCA 103	Advertising Art I	3
GCA 202	Design II	3
GCA 203	Advertising Art II	3
GCA 207	Rendering II	3
GCA 209	Figure Illustration II	3
		15

Specialty II - Interior Design

GCA 108	Interior Design I	3
GCA 202	Design II	3
GCA 204	Commercial Silk Screen	3
GCA 217	Rendering II	3
GCA 208	Interior Design II	3
GCA 219	Figure Illustration II	3
GCA 222	Display Design	3
		21

Specialty III - Technical Illustration

GCA 111	Technical Illustration I	3
GCA 217	Rendering II	3
GCA 219	Figure Illustration II	3
GCA 211	Technical Illustration II	3
GCA 227	Airbrush and Photographic Retouching	3
		15

Specialty IV - Photography Specialty

GCA 103	Advertising Art I	3
GCA 202	Design II	3
GCA 204	Commercial Silk Screen I	3
GCA 216	Photography II	3
GCA 226	Photography III	3
GCA 227	Airbursh and Photographic Retouching	3
		18

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1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
20	13	7	5	1	$260-1,000	$500

4 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$400-1,000	$508

3 Grads Report Working Full-Time/Unrelated Field	
Earning Range	Median Salary
$260-700	$500

INDUSTRIAL SUPERVISION AND MANAGEMENT (South Campus only)

OCCUPATIONAL INFORMATION IN A NUTSHELL . . .

INDUSTRIAL SUPERVISOR [REI--Holland Code]

NATURE OF WORK. Supervises and coordinates activities of workers engaged in one or more occupations. Studies production schedules and estimates man hour requirements for completion of job assignment. Interprets company policies; interprets specifications and job orders to workers, and assigns duties. Establishes or adjusts work procedures to meet production schedules. Analyzes and resolves work problems. Initiates or suggests plans to motivate workers, recommending or initiating personnel actions. May train new workers.

EMPLOYMENT TRENDS. Employment is expected to grow much slower than average for all occupations. Most of increase in employment due to expansion of nonmanufacturing industries. Competition for supervisory jobs usually is keen. Best prospects for workers who have leadership plus some college.

	1970 employment	Annual openings to 1980	Projected 1980
Detroit area	39,350	1,030	----
Michigan	80,650	2,110	86,700

ESTIMATED SALARY. Not available, but subject to variation on the basis of experience, education, and employer type.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 75, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Industrial Supervision & Management		
• 9 Core Courses	24	$478.15*
Associate of Applied Science Degree - Industrial Supervision & Management		
• 9 Core Courses	24	$478.15*
• General Education	16	[see Index]
• Electives	22	[see Index]
	62	

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

CERTIFICATE AND ASSOCIATE DEGREE CORE COURSES - INDUSTRIAL SUPERVISION AND MANAGEMENT

	SEM HRS
SUM 100 Industrial Organization	3
SUM 110 Manufacturing Supervision	3
SUM 111 Industrial Relations	3
SUM 126 Process Engineering	3
SUM 140 Industrial Safety	3
SUM 221 Quality Planning & Analysis	3
SUM 227 Product Estimating & Cost Determinations	2
SUM 230 Critical Path Method of Planning for Manufacturing	2
SUM 231 Industrial Traffic Management	2
	24

Suggested Elective Areas:

- Metrology
- Fluid Power Technology
- Electro Technology
- Welding Technology
- Metallurgical Science Technology
- Numerical Control Technology
- Drafting
- Graphic and Commerical Art
- Printing Technology
- Industrial Cooperative Internship
- Labor Studies

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1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
36	30	28	1	1	$500-1940	$1162

15 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$800-1900	$1275

13 Grads Report Working Full-Time/Unrelated Field	
Earning Range	Median Salary
$500-1940	$1160

INDUSTRIAL LABOR STUDIES (South Campus only)

OCCUPATIONAL INFORMATION
IN A NUTSHELL . . .

NOT AVAILABLE

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 64, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Industrial Labor Studies		
• 8 Core Courses	25	$407.85*
Associate of Applied Science Degree - Industrial Labor Studies		
• 8 Core Courses	25	$407.85*
• General Education	21	[see Index]
• Electives from Suggested Elective Areas	16	[see Index]
	62	

CERTIFICATE AND ASSOCIATE DEGREE CORE COURSES - INDUSTRIAL LABOR STUDIES	SEM HRS
ILS 101 Organization of Labor	3
ILS 118 Collective Bargaining	3
ILS 110 Labor and the Law	3
ILS 119 The Arbitration Process	3
ILS 120 History of American Labor	3
ILS 230 Labor Administration	3
ILS 280 Seminar in Labor Studies	3
BCO 205 Business Communications	4
	25

Suggested Elective Areas:

- Accounting
- Economics
- Para-Legal Technology-Michigan Courts
- Political Science
- Industrial Psychology
- Numerical Control-Automation

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
4	4	4	0	0	$500-1,300	$1,000

3 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$500-1,300	$900

1 Grad Reports Working Full-Time/Unrelated Field
Salary
$1,000

METALLURGICAL SCIENCE TECHNOLOGY (South Campus only)

OCCUPATIONAL INFORMATION
IN A NUTSHELL . . .

METALLURGICAL TECHNICIAN [ICR/IRC--Holland Code]

NATURE OF WORK. Works directly with engineers in manufacturing or research. As a quality control technician, inspects and tests processed metal to determine whether standards are being met; may analyze causes of defects; may also inspect raw materials to see that correct material of proper quality is used in each process. As a laboratory technician, tests materials at different stages of the process to insure smooth production and product quality.

EMPLOYMENT TRENDS. Specifically not available. Metallurgical technology is a small and relatively new occupation. However, employment expected to increase faster than average for all engineering and science technician occupations as a result of industrial expansion and increasingly important role of technicians in research and development. Favorable employment opportunities, particularly for graduates of postsecondary school technician training programs.

ESTIMATED SALARY. $4.50-6.80 per hour.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 79, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Metallurgical Science		
• 8 Core Courses	23	$431.00
Associate of Applied Science Degree - Metallurgical Science		
• 8 Core Courses	23	$431.00
• General Education	16	[see Index]
• Electives	23	[see Index]
	62	

CERTIFICATE AND ASSOCIATE DEGREE CORE COURSES - METALLURGICAL SCIENCE TECHNOLOGY	SEM HRS
MST 106 Characteristics of Metals	3
MST 110 Metallography	3
MST 210 Foundry	3
MST 211 Heat Treatment	3
MST 107 Industrial Alloys	3
MST 202 Mechanics of Metals	2
MST 213 Engineering Tests	3
MST 216 Metallurgical Lab Problems	3
	23

Suggested Elective Areas:

Industrial Supervision & Management
Metrology & Calibration Technology
Metals Machining Technology
Drafting
Math
Welding Technology
Industrial Cooperative Internship

****

1974-75 GRADUATE EMPLOYMENT REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
12	6	6	0	0	$400-1100	$925

6 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$400-1100	$925

METALS MACHINING TECHNOLOGY (South Campus only)

OCCUPATIONAL INFORMATION
IN A NUTSHELL . . .

RELATED JOBS. Machine Operator; machine tool technician, apprentice in tool and die making.

MACHINE OPERATOR [RIE--Holland Code]

NATURE OF WORK. Sets up and operates metal fabricating machines such as brakes, rolls, shears, saws, and heavy-duty presses, to cut, bend, straighten and form metal plates, sheets, and structural shapes as specified by blueprints, layouts, and templates.

EMPLOYMENT TRENDS. Moderate increase. Despite slower than average employment growth, many job opportunities should result from large replacement needs.

	1970 employment	Annual openings to 1980	Projected 1980
Detroit area	5,100	220	----
Michigan	8,900	380	10,800

ESTIMATED SALARY. $3.75-6.00 per hour.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 79, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Metals Machining		
• 8 Core Courses	24	$420.50 - $486.50
Associate of Applied Science Degree - Metals Machining		
• 8 Core Courses	24	$420.50 - $486.50
• General Education	16	[see Index]
• Electives	22	[see Index]
	62	

CERTIFICATE AND ASSOCIATE DEGREE CORE COURSES - METALS MACHINING TECHNOLOGY	SEM HRS
MMT 100 Metals Machining Survey	3
MMT 110 Metals Machining I	3
MMT 120 Metals Machining Lab I	3
MMT 226 Milling Problems and Applications	3
MMT 228 Grinding Problems and Applications	3
MMT 227 Metals Machining Lab II	3
MMT 229 Metals Machining Lab III	3
MMT 249 Non-Traditional Machining	3
	24

Suggested Elective Areas:

Numerical Control
Metallurgy
Welding Technology
Electro Technology
Drafting
Metrology
Physics
Fluid Power
Industrial Cooperative Internship

****

1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
2	2	1	1	0		

1 Grad Reports Working Full-Time/Related Field
Salary
$1450

METROLOGY AND CALIBRATION TECHNOLOGY (South Campus only)

OCCUPATIONAL INFORMATION IN A NUTSHELL . . .

QUALITY CONTROL TECHNICIAN [ICR--Holland Code]

NATURE OF WORK. Tests and inspects products at various stages of production process and compiles and evaluates statistical data to determine and maintain quality and reliability of products. Collects samples, records dimensions, properties, composition, and performance. Evaluates and reports on test data. May specialize in any of the following areas: design, incoming material, process control, product evaluation, inventory control, product reliability, research and development, and administrative application.

EMPLOYMENT TRENDS. Not available.

ESTIMATED SALARY. Not available.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 80, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COSTS (tuition/fees, books & supplies
Certificate in Applied Science - Metrology & Calibration Technology		
• 10 Core Courses	28	$520.60*
Associate of Applied Science Degree - Metrology & Calibration Technology		
• 10 Core Courses	28	$520.60*
• General Education	16	[see Index]
• Electives	18	[see Index]
	62	

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

CERTIFICATE AND ASSOCIATE DEGREE CORE COURSES - METROLOGY AND CALIBRATION TECHNOLOGY	SEM HRS
MCR 100 Metric Orientation for the Metal Working Industry	2
MCR 101 Metrology	3
MCR 102 Statistical Quality Control	3
MCR 110 Inspection Methods	3
MCR 211 Metrology Laboratory	3
MCR 220 Calibration of Mechanical Instruments	3
MCR 221 Calibration of Optical Instruments	3
MCR 222 Calibration Laboratory	3
SUM 221 Quality Planning and Analysis	3
SUM 230 Critical Path Method of Planning	2
	28

Suggested Elective Areas:

Fluid Power Technology
Supervision & Management
Electro Technology
Metal Machining Technology
Numerical Control Technology
Drafting
Metallurgical Science Technology

****

1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
7	7	7	0	0	$700-1265	$994

4 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$700-1200	$1000

3 Grads Report Working Full-Time/Unrelated Field	
Earning Range	Median Salary
$800-1265	$988

NUMERICAL CONTROL TECHNOLOGY (South Campus only)

OCCUPATIONAL INFORMATION IN A NUTSHELL . . .

NUMERICAL CONTROL TOOL PROGRAMMER [RIE--Holland Code]

NATURE OF WORK. Plans program to control machining of metal parts by automatic machine tools utilizing magnetic tape and punched cards. Prepares program sheet for direction of key punch operators in transcribing data onto punch cards and magnetic or punched tapes with written plans for accuracy. May determine suitability of part for machining by automatic machines.

EMPLOYMENT TRENDS. Generally not available, however 10 annual openings in the state of Michigan are projected through 1980.

	1970 employment	Annual openings to 1980	Projected 1980
Detroit area		Not Available	
Michigan	200	10	300

ESTIMATED SALARY. Not available.

****

PROGRAM REQUIREMENTS AND COSTS . . .
(see page 80, General Catalog)

NOTE: Students interested in Numerical Control Technology as a career should first consider obtaining a journeyman's card in one of the skilled trades or have comprehensive machining experience. Those interested in upgrading their skills may enroll in any NCT course for which they meet the prerequisites or with the consent of the Numerical Control Curriculum advisor.

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Numerical Control (Manual Programing Two & Three Axis)		
● 2 Required Core Courses	5	$ 94.50
Certificate in Applied Science - Numerical Control (Numerical Control Machine Operations Specialty)		
● 4 Specialty I Courses	11	$181.50*
Certificate in Applied Science - Numerical Control (Numerical Control Computer Assisted 3-Axis Programming)		
● 4 Specialty II Courses	11	$236.50
Certificate in Applied Science - Numerical Control (Numerical Control Computer Assisted 4-Axis & 5-Axis Programming)		
● 5 Specialty III Courses	14	$290.00
Associate of Applied Science Degree - Numerical Control (Numerical Control Machine Operations Specialty)		
● 2 Required Core Courses	5	$ 94.50
● 4 Specialty I Courses	11	$181.50*
● NCT 200 - Management of Numerical Control Operations	2	$ 34.00
● General Education	16	[see Index]
● Electives	28	[see Index]
	62	

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

REQUIREMENTS (cont.)	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Associate of Applied Science Degree - Numerical Control (Numerical Control Computer Assisted Three Axis Programmer)		
• 2 Required Core Courses	5	$ 94.50
• 4 Specialty II Courses	11	$236.50
• NCT 200 - Management of Numerical Control Operations	2	$ 34.00
• General Education	16	[see Index]
• Electives	28	[see Index]
	62	
Associate of Applied Science Degree - Numerical Control (Numerical Control Computer Assisted Four & Five Axis Programmer)		
• 2 Required Core Courses	5	$ 94.50
• 5 Specialty III Courses	14	$290.00
• NCT 200 - Management of Numerical Control Operations	2	$ 34.00
• General Education	16	[see Index]
• Electives	25	[see Index]
	62	

CERTIFICATE AND ASSOCIATE DEGREE CORE COURSES-NUMERICAL CONTROL TECHNOLOGY	SEM HRS
NCT 100 Fundamentals of Numerical Control	2
NCT 116 Manual Programming of Numerical Control Machines	3
	5

Specialty I - Numerical Control Machine Operations	
NCT 100 Fundamentals of Numerical Control	2
NCT 212 Numerical Control Machine Operation	3
NCT 238 Numerical Control Graphics I	3
NCT 239 Numerical Control Graphics II	3
	11

CERTIFICATE AND ASSOCIATE DEGREE CORE COURSES - NUMERICAL CONTROL TECHNOLOGY

Specialty II - Numerical Control Computer Assisted Three Axis Programmer

	SEM HRS
NCT 100 Fundamentals of Numerical Control	2
NCT 116 Manual Programming of Numerical Control Machines	3
NCT 224 Basic A.P.T. Programming	3
NCT 226 Advanced A.P.T. Programming	3
	11

Specialty III - Numerical Control Computer Assisted Four and Five Axis Programmer

	SEM HRS
NCT 100 Fundamentals of Numerical Control	2
NCT 116 Manual Programming of Numerical Control Machines	3
NCT 224 Basic A.P.T. Programming	3
NCT 226 Advanced A.P.T. Programming	3
NCT 228 A.P.T. Programming Problems	3
	14

Suggested Elective Areas:

Metals Machining
Drafting
Electronics
Metrology
Supervision and Management
Data Processing
Industrial Cooperative Internship
Fluid Power Technology

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1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
11	3	3	0	0	$800-1200	$1160

2 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$1160-1200	$1180

1 Grad Reports Working Full-Time/Unrelated Field
Salary
$800

PRINTING TECHNOLOGY (South Campus only)

OCCUPATIONAL INFORMATION
IN A NUTSHELL . . .

LITHOGRAPHIC WORKERS [AIR--Holland Code]

RELATED JOBS. Lithographic occupations: camera operators, lithographic artists, strippers, platemakers, lithographic press operators.

CAMERA OPERATOR

NATURE OF WORK. Makes lithographic plates by photographing and developing negatives of copy. May be classified as line camera operator, halftone operator, or color separation photographer.

LITHOGRAPHIC ARTIST

NATURE OF WORK. Makes corrections by sharpening or reshaping images on negatives, using chemicals, dyes, and special tools. May be classified as dot etcher, retoucher, or letterer.

STRIPPER

NATURE OF WORK. Arranges and pastes film or prints of type and artwork on layout sheet.

PLATEMAKER

NATURE OF WORK. Exposes sensitized plates to negative, chemically treating the plates to bring out photographic image.

LITHOGRAPHIC PRESS OPERATOR [RIC--Holland Code]

NATURE OF WORK. Tends lithographic (offset) printing presses. Duties are basically similar to those of letterpress operators.

EMPLOYMENT TRENDS. Employment expected to grow faster than average for all occupations as offset presses are increasingly used in place of letter presses. Best prospects for those who have completed post high school programs in printing technology.

PHOTO ENGRAVERS AND LITHOGRAPHERS

	1970 employment	Annual openings to 1980	Projected 1980
Detroit Area	450	40	----
Michigan	1,000	80	1,500

PRINTING PRESS OPERATORS

	1970 employment	Annual openings to 1980	Projected 1980
Detroit Area	2,850	130	----
Michigan	5,900	270	7,500

ESTIMATED SALARY. Average minimum, lithographic artists $7.90/hour; platemakers $7.59/hour; press operators $7.81/hour.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 82, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Printing Technology		
• 12 Core Courses	36	$612.00*
Associate of Applied Science Degree - Printing Technology		
• 12 Core Courses	36	$612.00*
• General Education	16	[see Index]
• Electives	10	[see Index]
	62	

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

CERTIFICATE AND ASSOCIATE DEGREE CORE COURSES - PRINTING TECHNOLOGY	SEM HRS
PRT 106 Letterpress I	3
PRT 207 Letterpress II	3
PRT 116 Offset Presswork I	3
PRT 117 Offset Presswork II	3
PRT 218 Offset Presswork III	3
PRT 138 Publications Production I	3
PRT 239 Publications Production II	3
PRT 127 Reproduction Camera I	3
PRT 128 Reproduction Camera II	3
PRT 229 Reproduction Camera III	3
PRT 148 Copy Preparation I	3
PRT 249 Copy Preparation II	3
	36

Suggested Elective Areas:

General Business
Supervision and Management
Marketing
Graphic and Commercial Art

****

1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
6	3	1	1	1		

1 Grads Report Working Full-Time/Related Field
Salary
$ 760

RADIO-TV-SOUND REPAIR [ELECTRONIC SERVICE TECHNOLOGY] (South Campus only)

OCCUPATIONAL INFORMATION
IN A NUTSHELL . . .

RADIO & TELEVISION SERVICE TECHNICIAN [RIC--Holland Code]

NATURE OF WORK. Tests and repairs radio and TV receivers using hand tools and electrical measuring instruments. Replaces defective components, parts, and wiring. May specialize in such areas as auto radios, TV or two-way communication equipment.

EMPLOYMENT TRENDS. Employment expected to increase faster than average for all occupations in response to growing number of radios, television sets, phonographs, tape recorders, and other home entertainment products.

	1970 employment	Annual openings to 1980	Projected 1980
Detroit Area	2,050	60	----
Michigan	4,250	120	4,700

ESTIMATED SALARY. $3-6.50 per hour.

****

PROGRAM REQUIREMENTS AND COSTS . . .
(see page 83, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies
Certificate in Applied Science - Radio-TV-Sound Repair		
• 9 Core Courses	29-30	$490.40 - $577.40

CERTIFICATE CORE COURSES - RADIO-TV-SOUND REPAIR	SEM HRS
EST 101 Radio-TV-Sound Systems	3
EST 102 Electronic Components Applications	3
EST 103 Test Equipment I	3
EST 104 Test Equipment II	3
EST 105 Troubleshooting I	3
EST 106 Troubleshooting II	3
MGT 121 Small Business Management	3
and either:	
TIC 270 Co-operative Work Experience	3
TIC 270 Co-operative Work Experience	6
or:	
EST 107 Advanced TV Troubleshooting	4
EST 108 Advanced Radio Troubleshooting	4
	29-30

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1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
4	2	1	0	1		

1 Grads Report Working Full-Time/Unrelated Field
Salary
$ 564

SPECIAL MACHINE DESIGN (South Campus only)

OCCUPATION INFORMATION
IN A NUTSHELL . . .

DESIGN DRAFTERS [RIE--Holland Code]

NATURE OF WORK. Design drafters are workers who make design drawings to assist in developing experimental ideas evolved by research engineers, using specifications and sketches, and employing knowledge of engineering theory and its applications to solve mechanical and fabrication problems.

EMPLOYMENT TRENDS. Specifically not available. However, for drafters employment expected to increase faster than average for all occupations as more drafters will be needed to support growing number of scientists and engineers. Also, increasingly complex design problems require additional drafters. Best opportunities for holders of associate degrees in drafting.

	1970 employment	Annual openings to 1980	Projected 1980
Detroit Area	12,900	590	----
Michigan	19,300	890	25,500

ESTIMATED SALARY. Not available.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 85, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies
Certificate in Applied Science - Special Machine Design		
• 12 Core Courses	36	$639.15 - $645.00*

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Associate of Applied Science Degree - Special Machine Design		
• 12 Core Courses	36	$639.15 - $645.00*
• General Education	16	[see Index]
• Electives	5	[see Index]
	62	

CERTIFICATE AND ASSOCIATE DEGREE CORE COURSES - SPECIAL MACHINE DESIGN	SEM HRS
DST 111 Drafting Practices	4
DST 125 Descriptive Geometry	3
DTF 117 Jig and Fixture Detailing and Design	3
DMS 100 Gearing Theory	3
DSM 218 Automated Machine Design I	3
DSM 219 Automated Machine Design II	3
TMT 107 Technical Math II	3
FPT 100 Fluid Power Fundamentals	3
MMT 100 Metal Machining Survey	3
ELT 100 Electro Survey	2
DST 116 Industrial Processes and Materials	4
DTF 246 Mechanical Handling	2
	36

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1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
7	1	1	0	1		

1 Grads Report Working Full-Time/Unrelated Field
Salary
$700

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

SURVEYING TECHNOLOGY (South Campus only)

OCCUPATIONAL INFORMATION
IN A NUTSHELL . . .

SURVEYOR [RCI--Holland Code]

NATURE OF WORK. Measures and determines the exact location of points, lines, areas, and elevations on the earth's surface to designate the location of property lines, building sites, roads and collects information for maps and charts. Records are the basis for deeds, maps, land valuations, etc. Work applies to real estate and title insurance, construction, land survey, highway survey, etc. A combination of post high school courses in surveying and extensive on-the-job training is the most common method of entering the occupation. With some post high school courses in surveying, beginners generally start as instrument workers. Promotions to higher level positions are based on experience and licensing.

EMPLOYMENT TRENDS. Nationally, employment expected to increase much faster than average for all occupations in response to rapid development of urban areas. Best opportunities for those with post high school training in surveying.

SURVEYORS

	1970 employment	Annual openings to 1980	Projected 1980
Detroit Area	500	20	----
Michigan	1,700	70	2,250

SURVEYOR HELPERS

	1970 employment	Annual openings to 1980	Projected 1980
Detroit Area	NOT AVAILABLE		
Michigan	350	10	350

ESTIMATED SALARY. Starting $6,000-7,600; experienced $9,500-15,000.

* * *

PROGRAM REQUIREMENTS AND COSTS . . .
(see page 85, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Surveying Technology		
• 6 Core Courses	20	$405.35*
Associate of Applied Science Degree - Surveying Technology		
• 6 Core Courses	20	$405.35*
• General Education	16	[see Index]
• Electives	26	[see Index]
	62	

CERTIFICATE AND ASSOCIATE DEGREE CORE COURSES - SURVEYING TECHNOLOGY	SEM HRS
SUR 110 Elementary Surveying	3
MTH 145 Algebra and Trigonometry	4
SUR 220 Route Surveying	3
GEL 106 Principles of Geology I	4
SUR 230 Land Surveying	3
SUR 294 Advanced Surveying	3
	20

Suggested Elective Areas:

Accounting
Civil Technology
Science

Business
Drafting
Cooperative Internship

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
12	4	4	0	0	$600-895	$783

4 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$600-895	$783

TOOL, FIXTURE AND DIE DESIGN (South Campus only)

OCCUPATION INFORMATION
IN A NUTSHELL . . .

TOOL DESIGNER [RIE--Holland Code]

NATURE OF WORK. Designs broaches, milling-machine cutters, drills, and other single- or multiple-edged cutting tools, and related jigs, dies, and fixtures for production or experimental use in metalworking machines. Draws preliminary sketches and prepares layout and detail drawings.

EMPLOYMENT TRENDS. Specifically not available. However, employment is expected to grow faster than average for all enginnering and science technician occupations as a result of industrial expansion and development. Favorable employment opportunities, particularly for graduates ofpost high school technician training programs.

MECHANICAL ENGINEERING TECHNICIANS

	1970 employment	Annual openings to 1980	Projected 1980
Detroit Area	1,550	80	----
Michigan	2,050	110	2,850

ESTIMATED SALARY. Not available.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 85, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Tool, Fixture & Die Design		
• 11 Core Courses	31	$600.90 - $601.90
Associate of Applied Science Degree - Tool, Fixture & Die Design		
• 11 Core Courses	31	$600.90 - $601.90
• General Education	16	[see Index]
• Electives	15	[see Index]
	62	

CERTIFICATE AND ASSOCIATE DEGREE CORE COURSES - TOOL, FIXTURE & DIE DESIGN	SEM HRS
DST 111 Drafting Practices	4
DAB 151 Body Blueprint Reading I	2
DST 125 Descriptive Geometry	3
DTF 117 Jig and Fixture Detailing and Design	3
DTF 121 Die theory	2
DTF 200 Panel Tipping	2
DTF 228 Die Design I	3
DTF 236 Body Fixture Detail and Design	3
DTF 229 or 237 Die Design II or Automatic Welding Equipment Design	3
DTF 246 Mechanical Handling	2
DST 116 Industrial Processes and Materials	4
	31

Suggested Elective Areas:

Math
Drafting
Industrial Cooperative Internship

****

1974-75 GRADUATE EMPLOYMENT REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
4	4	4	0	0	$520-1600	$966

3 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$520-1200	$731

1 Grad Report Working Full-time/Unrelated Field
Salary
$1600

TYPESETTING AND COPY PREPARATION (South Campus only)

OCCUPATIONAL INFORMATION
IN A NUTSHELL . . .

COMPOSING ROOM WORKER [RIC--Holland Code]

NATURE OF WORK. Typesetting machine operators (compositors) are craftsmen who operate semiautomatic machines which set type much more rapidly than hand methods. Many of these workers specialize in operating linotype, keyboard, casting, or phototypesetting machines. Most compositors get their skills through apprenticeship training or a combination of trade school and helper experience.

EMPLOYMENT TRENDS. Composing room workers. Employment expected to decline due to use of high-speed phototypesetting and typesetting computers that require few operators. Nationally, few thousand openings annually resulting from replacement needs. Best prospects for those who have completed post high school programs in printing technology.

COMPOSITORS & TYPESETTERS

	1970 employment	Annual openings to 1980	Projected 1980
Detroit Area	2,350	80	----
Michigan	5,300	180	5,450

ESTIMATED SALARY. Average minimum for union compositors (newspaper plants) $6.86 per hour.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 86, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Typesetting & Copy Preparation		
• 10 Core Courses.....................	24-31	............$464.10 - $495.15*

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

CERTIFICATE CORE COURSES - TYPESETTING AND COPY PREPARATION	SEM HRS

[NOTE: The following courses may be taken for job up-grading interest, or as skill refreshers for persons already engaged in the occupational area. A typing speed of 30 wpm is necessary for entry into the program.]

PRT 148 Copy Preparation I	3
TCP 155 Intro to Printing Processes	3
TCP 156 Copy Preparation Workshop I	3
TCP 157 Camera-Ready Art I	3
PRT 249 Copy Preparation II	3
TCP 158 Copy Preparation Workshop II	3
TCP 159 Camera-Ready Art II	3
TYP 117 Intermediate Typewriting	3
TYP 210 Advanced ypewriting	3
ENG 118/121 or 110 Composition	3-4
	24-31

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1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
NOT AVAILABLE. NO GRADUATES 1974-75.						

WELDING TECHNOLOGY (South Campus only)

OCCUPATIONAL INFORMATION IN A NUTSHELL . . .

WELDER [RIS--Holland Code]

NATURE OF WORK. Fuses metal parts together and closes metal seams using arc or gas welding equipment. Follows blueprints, layouts and oral instruction. Examines welds for adherence to specifications. May repair broken, defective or worn parts. May flame cut metal plates or structural shapes.

EMPLOYMENT TRENDS. Employment expected to increase faster than average for all occupations due to favorable outlook for metal working industries and greater use of welding. Very good opportunities, particularly for skilled welders in nuclear power plant, pipeline, and ship construction jobs.

	1970 employment	Annual openings to 1980	Projected 1980
Detroit Area	18,300	840	----
Michigan	37,300	1,720	47,600

ESTIMATED SALARY. Welding machine tenders $3.93-5.10/hour; construction industry $4.50-10.00/hour, depending on location.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 86, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Welding Technology		
• 13 Core Courses	37	$749.05*

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Associate of Applied Science Degree - Welding Technology		
• 13 Core Courses	37	$749.05*
• General Education	16	[see Index]
• Electives	9	[see Index]
	62	

CERTIFICATE AND ASSOCIATE DEGREE CORE COURSES - WELDING TECHNOLOGY	SEM HRS
WET 116 Gas Welding I	3
WET 126 A.C.,D.C. Welding I	3
WET 128 Gas Welding II	3
WET 136 Gas Tungsten Arc Welding I	3
WET 129 A.C.,D.C. Arc Welding II	3
WET 237 Gas Tungsten Arc Welding II	3
WET 242 Tool & Die Welding	3
WET 238 Pipe Welding	3
WET 240 Maintenance Welding	3
WET 258 Welding Metallurgy I	2
WET 259 Welding Metallurgy II	2
DPW 115 Print Reading & Layout	3
MST 110 Metallography	3
	37

Suggested Elective Areas:

Metallurgical Science Technology
Drafting
Metals Machining Technology
Numerical Control Technology
Electro Technology
Industrial Coop. Internship
Climate Control

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . ...

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
7	5	5	0	0	$465-1000	$800

2 Grads Reporting Working Full-Time/Related Field	
Earning Range	Median Salary
$465-600	$533

3 Grads Report Working Full-Time/Unrelated Field	
Earning Range	Median Salary
$800-1000	$970

PUBLIC SERVICE PROGRAMS

[offered only at Center Campus]

Crime Laboratory Technician

Fire Science

Industrial Laboratory Technician

Law Enforcement

Library Technical Assistant

Professional Food Services

Recreation Leadership

Security and Loss Prevention

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1974-75 GRADUATE EMPLOYMENT REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
247	132	116	5	11	$500-1900	$1250

104 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$500-1900	$1226.50

12 Grads Report Working Full-Time/Unrelated Field	
Earning Range	Median Salary
$500-1650	$890

CRIME LABORATORY TECHNICIAN (Center Campus only)

OCCUPATIONAL INFORMATION
IN A NUTSHELL . . .

CRIME LABORATORY TECHNICIAN [IRC--Holland Code]

NATURE OF WORK. A specialist in the examination, comparison, and analysis of physical evidences of criminal activity. Work involves photography, collecting and perserving evidence, and microscopic and chemical analysis of fingerprints, firearms, hair, etc.

EMPLOYMENT TRENDS. Not available.

ESTIMATED SALARY. $9,000 -15,000 per year.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 69, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Associate of Applied Science Degree - Crime Laboratory Technician		
• 12 Associate Degree Core Courses	47	$1053.05 - $1081.70*
• General Education	14	[see Index]
• Physical Education	2	[see Index]
	63	

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

ASSOCIATE DEGREE CORE COURSES - CRIME LABORATORY TECHNICIAN	SEM HRS
AVT 138 Still Photography	3
BIO 101 Introductory Biology	4
BIO 241 Microbiology	4
CHM 105 General Chemistry I	4
CHM 106 General Chemistry II	4
CHM 235 Quantitative Analysis or MLT 106 Hematology or BIO 271 Physiological Anatomy	4
LAW 110 Criminal Justice	3
LAW 132 Interviewing	3
LAW 235 Criminal Investigation & Laboratory Techniques	4
LAW 237 Criminalistics I	3
LAW 238 Criminalistics II	3
LAW 239 Criminalistics III	3
LAW 268 Evidence & Criminal Procedures	4
LAW 269 Criminal Law	4
	42

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Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
SEE LAW ENFORCEMENT 1974-75 GRADUATE EMPLOYMENT REPORT SUMMARY						

FIRE SCIENCE (Center Campus)

OCCUPATIONAL INFORMATION IN A NUTSHELL . . .

FIRE FIGHTER [RSE--Holland Code]

NATURE OF WORK. Controls and extinguishes fires, protects life and property, and maintains equipment as volunteer or employee of city, township, or industrial plant. Connects hose lines to hydrants, operates a pressure pump, positions ladders. Helps people to safety and administers first aid. Also responsible for fire prevention.

EMPLOYMENT TRENDS. Employment expected to increase faster than average in response to growing need for fire protection and replacement of volunteer fire companies by professional fire departments. Keen competition for jobs in urban areas; better opportunities in smaller communities.

	1970 employment	Annual openings to 1980	Projected 1980
Detroit area	3,600	260	----
Michigan	6,350	450	10,000

ESTIMATED SALARY. Small cities $8,100-9,700; large cities $8,800-10,500; metropolitan $10,400-12,200.

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PROGRAM REQUIREMENTS COSTS . . .
(see page 72, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Fire Science		
• 10 Certificate Core Courses	32	$604.00*
Associate of Applied Science Degree - Fire Science		
• 10 Certificate Core Courses	32	$604.00*
• 3 Associate Degree Core Courses	9	$160.25
• General Education	14	[see Index]
• Electives	6	[see Index]
• Physical Education	2	[see Index]

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

CERTIFICATE CORE COURSES - FIRE SCIENCE	SEM HRS
FSC 100 Philosophy of Fire Protection	3
FSC 101 Fundaments of Fire Prevention	3
FSC 118 Fire Science I	4
FSC 119 Fire Science II	4
FSC 128 Fire Protection Equipment & Systems I	3
FSC 129 Fire Protection Equipment & Systems II	3
FSC 230 Fire Department Administration	3
FSC 241 Building Construction for Fire Protection	3
FSC 213 Fire Hydraulics & Water Supply	3
FSC 251 Fire Fighting Tactics & Strategy	3
	32

ASSOCIATE DEGREE CORE COURSES - FIRE SCIENCE	SEM HRS
MTH 120 Mathematics	3
SPH 106 Principles of Speech	3
MGT 101 Principles of Management	3
	9

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1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
62	36	36	0	0	$570-1900	$1250

35 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$570-1900	$1250

1 Grad Reports Working Full-Time/Unrelated Field
Salary
$890

INDUSTRIAL LABORATORY TECHNICIAN (Center Campus only)

OCCUPATIONAL INFORMATION IN A NUTSHELL . . .

LABORATORY TECHNICIAN [IRC--Holland Code]

NATURE OF WORK. Sets up and operates small scale chemical production equipment under laboratory conditions to test methods and chemical processes for product development, following specifications and guidance from Research Chemists or engineers. Performs standard quantitative or qualitative chemical analysis to verify process conditions and compile research data.

EMPLOYMENT TRENDS. Generally not available. However, employment is expected to grow faster than average for all engineering and science technician occupations as a result of industrial expansion and increasingly important role of technicians in research and development. Favorable employment opportunities, particularly for graduates of postsecondary school technician training programs.

ESTIMATED SALARY. $3.93-5.89 per hour.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 75, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Industrial Laboratory Technician		
● 8 Certificate Core Courses	35	$677.40*
Associate of Applied Science Degree - Industrial Laboratory Technician		
● 8 Certificate Core Courses	35	$677.40*
● 7 Associate Degree Core Courses	22	$341.25 - $409.75
● Electives	5	[see Index]
	62	

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

CERTIFICATE CORE COURSES - INDUSTRIAL LABORATORY TECHNICIAN	SEM HRS
CHM 105 General Chemistry I	4
CHM 106 General Chemistry II	4
ILT 116 Industrial Laboratory Technician I	3
ILT 117 Industrial Laboratory Technician II	3
ILT 226 Industrial Laboratory Technician III	7
ILT 227 Industrial Laboratory Technician IV	7
MTH 100 Intermediate Algebra	3
MTH 110 Introduction to Computers	4
	35

ASSOCIATE DEGREE CORE COURSES - INDUSTRIAL LABORATORY TECHNICIAN	SEM HRS
BCO 204 Business Correspondence	3
ENG 121 Composition I	3
ENG 122 Composition II	3
PED 100/104 to 197 Physical Education	2
SPH 106 Speech Communications	3
SSC 121 Man and Society	4
SSC 122 The American System	4
	22

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Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Range
NOT AVAILABLE. NO GRADUATES IN 1974-75.						

LAW ENFORCEMENT (Center Campus only)

OCCUPATIONAL INFORMATION
IN A NUTSHELL . . .

POLICE OFFICER [RSE--Holland Code]

NATURE OF WORK. Patrols assigned beat on foot, motorcycle, squad car, or horseback to control traffic, prevent crime or disturbances of the peace, and to arrest violators. Investigates accidents and crimes, inspects licensed establishments to ensure compliance with the law.

EMPLOYMENT TRENDS. Good prospects for those with college training in law enforcement. Women and minority applicants sought to make police departments more representative of the populations they serve.

	1970 employment	Annual openings to 1980	Projected 1980
Detroit area	8,950	520	----
Michigan	15,050	870	21,750

ESTIMATED SALARY. $9,500-11,000 to $40,000 for high level administrative posts in metropolitan areas.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 76, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Law Enforcement		
● 9 Certificate Core Courses	30	$572.00*
Associate of Applied Science Degree - Law Enforcement		
● 9 Certificate Core Courses	30	$572.00*
● 2 Associate Degree Core Courses	6	$129.45
● General Education	20	[see Index]
● Electives	4	[see Index]
● Physical Education	2	[see Index]
	62	

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

CERTIFICATE CORE COURSES - LAW ENFORCEMENT	SEM HRS
LAW 110 Criminal Justice	3
LAW 128 Police Organization & Administration	3
LAW 129 Patrol Administration & Procedures	3
LAW 132 Interviewing	3
LAW 151 Highway Traffic Administration	3
LAW 235 Criminal Investigation & Laboratory Techniques	4
LAW 268 Evidence & Criminal Procedures	4
LAW 269 Criminal Law	4
LAW 279 Directed Studies	3
	30

ASSOCIATE DEGREE CORE COURSES - LAW ENFORCEMENT	SEM HRS
PSY 101 Introductory Psychology	4
PED 277 Advanced First Aid and Emergency Care	2
	6

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1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

[NOTE: The information below includes graduates of the Crime Laboratory Technician, Law Enforcement, and Security and Loss Prevention programs. The reader should note, however, that each of these is a separate, distinct program training people for separate, distinct professions.]

Grads in the Programs	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
129	66	65	0	1	$500-1650	$1214

56 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$764-1600	$1254

9 Grads Report Working Full-Time/Unrelated Field	
Earning Range	Median Salary
$500-1650	$750

LIBRARY TECHNICAL ASSISTANT (Center Campus only)

LIBRARY ASSISTANT [CSA--Holland Code]

NATURE OF WORK. Works under the supervision of librarians in public, academic, special, and school libraries, assisting in the many phases of library operations: circulation, reference, periodicals, cataloging, special display, repair.

EMPLOYMENT TRENDS. Employment expected to grow faster than average for all occupations. Best opportunities in large public and college libraries, particularly for graduates of academic programs.

	1970 employment	Annual openings to 1980	Projected 1980
Detroit area	1,700	160	----
Michigan	5,250	490	6,400

ESTIMATED SALARY. $6,500-10,000 per year.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 76, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Library Technical Assistant		
• 11 Certificate Core Courses	31	$542.80 - $543.45*
Associate of Applied Science Degree - Library Technical Assistant		
• 11 Certificate Core Courses	32	$557.30 - $557.95
• General Education	20	[see Index]
• Electives	8	[see Index]
• Physical Education	2	[see Index]
	62	

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

CERTIFICATE CORE COURSES - LIBRARY TECHNICAL ASSISTANT	SEM HRS
LTA 110 An Introduction to Library Services	3
LTA 121 Acquisitions	3
LTA 131 Cataloging & Processing	3
LTA 132 Maintenance & Dissemination of Library Materials	3
LTA 141 Introduction to Audio-Visual Media	3
LTA 151 Reference & Bibliography	3
LTA 260 Library Coordinated Internship	3
OFF 104 Records Management	3
OFF 200 Personal Development	2
OFF 102 Office Machines	3
TYP 116/117 Typing	3
	32

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1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
25	15	5	4	6	$560-971	$600

5 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$560-971	$600

PROFESSIONAL FOOD SERVICES (Center Campus only)

OCCUPATIONAL INFORMATION
IN A NUTSHELL . . .

FOOD SERVICES SUPERVISOR [RSE--Holland Code]

NATURE OF WORK. Trains and supervises employees engaged in serving food in hospital, nursing home, school or college food service department, and similar institutions, and in maintaining cleanliness of food service areas and equipment. Instructs workers, assigns and coordinates work of employees, supervises serving of meals, keeps records, requisitions supplies, and equipment, may direct preparation of foods.

EMPLOYMENT TRENDS. Not available.

ESTIMATED SALARY. Not available.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 82, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Professional Food Services		
● 11 Certificate Core Courses.........	33.............	$647.95*

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

CERTIFICATE CORE COURSES - PROFESSIONAL FOOD SERVICES	SEM HRS
BUS 102 Human Relations	3
PFS 100 Orientation to Commercial Foods	3
PFS 110 Foods and Nutrition	3
PFS 126 Food Service Math	3
PFS 127 Food Service Accounting	3
PFS 136 Elementary Kitchen Practice	4
PFS 137 Quantity Food Preparation	5
PFS 140 Food Supervision	3
PFS 141 Selection and Storage of Food	3
PFS 142 Principles of Merchandising and Service	2
PFS 150 Directed Study	1
	33

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1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
13	7	4	0	3	$500-1025	$637

3 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$500-725	$550

1 Grad Reports Working Full-Time/Unrelated Field
Salary
$1025

RECREATION LEADERSHIP (Center Campus only)

OCCUPATIONAL INFORMATION IN A NUTSHELL . . .

RECREATION WORKER [SIC--Holland Code]

NATURE OF WORK. Conducts recreation activities and programs for groups in public departments, voluntary agencies, camps, and schools. May schedule use of facilities and equipment, collect fees, sell or rent products or equipment, enforce rules, and referee.

EMPLOYMENT TRENDS. Employment expected to grow faster than average for all occupations in response to increased demand for recreation programs. Favorable outlook for those with at least bachelor's degree in recreation. Good opportunities for part-time and summer employment.

	1970 employment	Annual openings to 1980	Projected 1980
Detroit area	400	80	----
Michigan	1,700	140	2,400

ESTIMATED SALARY. Starting B.A. $7,200-9,000; director $11,000-20,000.

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PROGRAM REQUIREMENTS AND COSTS . . . (see page 83, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Recreation Leadership		
• 8 Certificate Core Courses	21	$381.20*
Associate of Applied Science Degree - Recreation Leadership		
• 8 Certificate Core Courses	21	$381.20*
• 12 Associate Degree Core Courses	37	$580.06 - $618.56*
• Electives	4	[see Index]
	62	

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

CERTIFICATE CORE COURSES - RECREATION LEADERSHIP	SEM HRS
PED 251 Activities for Elementary Age Children	2
PED 256 Rules and Techniques of Officiating and Programming Sports	2
REC 106 Introduction to Recreation	3
REC 117 Organization and Operation of Recreation Services	4
REC 126 Arts & Crafts	2
REC 127 Music and Rhythmic Activities	2
REC 218 Group Leadership	3
REC 219 Recreation Centers & Playgrounds	3
	21

ASSOCIATE DEGREE CORE COURSES - RECREATION LEADERSHIP	SEM HRS
ENG 116/121 English	3
ENG 117/122 English	3
HUM 121 Introduction To The Arts	3
HUM 122 The Arts and Society	3
PED 100/104 to 197 Physical Education	2
PED 260 Hygiene	2
PED 276 Standard First Aid	2
REC 246 Recreation Field Work I	4
REC 247 Recreation Field Work II	4
SPH 106 Speech Communications I	3
SSC 121 Man and Society	4
SSC 122 The American System	4
	37

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1974-75 GRADUATE EMPLOYMENT
REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
11	5	3	1	1	$720-1300	$1000

2 Grads Report Working Full-Time/Related Field	
Earning Range	Median Salary
$720-1000	$860

1 Grad Reports Working Full-Time/Unrelated Field
Salary
$1300

SECURITY AND LOSS PREVENTION (Center Campus only)

OCCUPATIONAL INFORMATION IN A NUTSHELL . . .

SECURITY WORKER/MANAGER [RSE--Holland Code]

NATURE OF WORK. Plans and arranges for patrols and inspections of property to protect it against fire, theft, vandalism, and illegal entry. Directs personnel involved in establishing, promoting, and maintaining firm's security and property protection programs.

EMPLOYMENT TRENDS. Moderate increase.

ESTIMATED SALARY. $100-225 per week.

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PROGRAM REQUIREMENTS AND COSTS . . .
(see page 84, General Catalog)

REQUIREMENTS	SEM HRS	ESTIMATED TOTAL COST (tuition/fees, books & supplies)
Certificate in Applied Science - Security & Loss Prevention		
• 7 Certificate Core Courses	22	$390.55*
Associate of Applied Science Degree - Security & Loss Prevention		
• 7 Certificate Core Courses	22	$390.55*
• 6 Associate Degree Core Courses	19	$351.35
• General Education	20	[see Index]
• Physical Education	2	[see Index]
	63	

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* This amount is an underestimate. At the time of printing some textbook and/or supply costs were not known.

CERTIFICATE CORE COURSES - SECURITY AND LOSS PREVENTION	SEM HRS
SLP 110 Introduction to Security	3
SLP 113 Industrial Fire Protection	3
SLP 121 Principles of Loss Prevention	3
SLP 132 Comparative Security Systems	3
SLP 140 Security Administration	3
SLP 250 Criminal, Civil & Administrative Law in Security Administration	3
LAW 235 Criminal Investigation & Laboratory Techniques	4
	22

ASSOCIATE DEGREE CORE COURSES - SECURITY AND LOSS PREVENTION	SEM HRS
SLP 111 Introduction to Industrial Safety	3
SLP 260 Directed Studies	3
LAW 132 Interviewing	3
BMA 101 Business Math	3
BUS 102 Human Relations	3
PSY 101 Introductory Psychology	4
	19

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1974-75 GRADUATE EMPLOYMENT REPORT SUMMARY . . .

Grads in the Program	Employable Grads Reporting	Working Full-Time	Unemployed	Working Part-Time	Earning Range	Median Salary
SEE LAW ENFORCEMENT 1974-75 GRADUATE EMPLOYMENT REPORT						

WORKSHEET

Computing Program Costs

PROGRAM NAME:	ESTIMATED COST
1. Certificate Core Courses [see particular program]	$
2. Specialty Courses [see particular program]	$
3. Associate Degree Core Courses [see particular program]	$
4. SUB TOTAL	$

5. General Education (including Physical Education)

Course #	Course Name	

6. SUB TOTAL $

7. Elective Courses

Course #	Course Name	

8. SUB TOTAL $

TOTAL [#4. + #6. + #8] $

COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
(ACC) ACCOUNTING		
ACC 100 Introduction to Accounting - 4 Sem Hrs - (4 contact hrs) South Campus	$58.00	$78.40
ACC 101 Principles of Accounting I - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$65.40
ACC 102 Principles of Accounting II - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$47.45 - $65.35
ACC 103 Principles of Accounting III - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$43.50 - $44.50
ACC 108 Principles of Accounting I - 4 Sem Hrs - (4 contact hrs) South Campus	$58.00	$75.45
ACC 109 Principles of Accounting II - 4 Sem Hrs - (4 contact hrs) South Campus	$58.00	$70.50
ACC 215 Governmental and Institutional Accounting - 4 Sem Hrs - (4 contact hrs) Center Campus	$58.00	$58.00**
ACC 218 Intermediate Accounting I - 4 Sem Hrs -(4 contact hrs)	$58.00 Center $58.00 South	$72.50 $76.90
ACC 219 Intermediate Accounting II - 4 Sem Hrs -(4 contact hrs)	$58.00 Center $58.00 South	$58.00** $58.00
ACC 227 Cost Accounting - 4 Sem Hrs - (4 contact hrs)	$58.00	$72.95
ACC 230 Federal Income Tax-Individual - 4 Sem Hrs - (4 contact hrs)	$58.00 Center $58.00 South	$69.75 $72.95
ACC 231 Business Taxation - 4 Sem Hrs - (4 contact hrs) South Campus	$58.00	$58.00**
(ADN) NURSING - ASSOCIATE DEGREE		
ADN 100 Fundamentals - 6 Sem Hrs - Fall semester only - (12 contact hrs) Center Campus	$97.00	$142.15 - $146.65
ADN 110 Maternity Nursing - 4 Sem Hrs Spring semester only - (16 contact hrs) Center Campus	$63.00	$78.95

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*This amount includes tuition, fees, books and supplies.

**This amount is an underestimate. At the time of printing some textbooks and/or supply costs were not known.

COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
ADN 120 Mental-Physical Nursing I - 5 Sem Hrs - Spring semester only - (18 contact hrs) Center Campus	$77.50	$103.75 - $128.0[illegible]
ADN 226 Mental-Physical Nursing II - 11 Sem Hrs - Fall semester only - (21 contact hrs) Center Campus	$169.50	$199.50 - $231.75
ADN 227 Mental-Physical Nursing III - 5 Sem Hrs - Spring semester only - (18 contact hrs) Center Campus	$77.50	$77.50**
ADN 240 Pediatric Nursing - 5 Sem Hrs - Spring semester only - (18 contact hrs) Center Campus	$77.50	$89.75
ADN 250 Trends in Nursing - 1 Sem Hr Fall or Spring semester - (1 contact hr) Center Campus	$14.50	$14.50**
ADVERTISING See MKT		
(AFM) AIRFRAME MECHANICS (Aviation Mechanics) See also APM, PPM		
AFM 211 Repair of Wood, Fabric and Finishing - 3 Sem Hrs - (5.5 contact hrs) South Campus	$48.50	$66.00
AFM 212 Sheet Metal I - 3 Sem Hrs - (4.5 contact hrs) South Campus	$48.50	$48.50 - $66.00
AFM 213 Aircraft Welding - 2 Sem Hrs - (3.75 contact hrs) South Campus	$34.00	$43.75 - $61.25
AFM 214 Sheet Metal II - 3 Sem Hrs - (4.5 contact hrs) South Campus	$48.50	$48.50
AFM 215 Assembly and Rigging, Inspection, Ground Operations & Servicing - 5 Sem Hrs - (7.5 contact hrs) South Campus	$77.50	$77.50 - $95.00
AFM 221 Hydraulic and Pneumatic Systems, Fluid Lines and Fittings - 3 Sem Hrs - (5.5 contact hrs) South Campus	$48.50	$48.50 - $66.00

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*This amount includes tuition, fees, books and supplies.

**This amount is an underestimate. At the time of printing some textbooks and/or supply costs were not known.

COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
AFM 222 Landing Gear Systems - 3 Sem Hrs - (4.5 contact hrs) South Campus	$48.50	$48.50
AFM 223 Cabin Atmosphere Systems, Instrument Systems, Communications and Navigation Systems - 3 Sem Hrs - (4.25 contact hrs) South Campus	$48.50	$50.75 - $56.75
AFM 224 Electrical System I - 2 Sem Hrs - (3.75 contact hrs) South Campus	$34.00	$34.00 - $40.00
AFM 225 Electrical Systems II - 2 Sem Hrs - (3.75 contact hrs) South Campus	$34.00	$34.00
AFM 227 Fuel, Ice, Rain Control Position and Warning, Fire Protection Systems - 3 Sem Hrs - (4.5 contact hrs) South Campus	$48.50	$48.50 - $54.50
AFM 228 Tests, Preparation and Practice (Systems and Components) - 3 Sem Hrs - (4.5 contact hrs) South Campus	$48.50	$52.00
AIR CONDITIONING See CCT		
(ALH) ALLIED HEALTH		
ALH 110 Health Concepts - 1 Sem Hr - Fall and Spring semesters only - (1 contact hr) Center Campus	$14.50	$14.50**
ALH 229 Independent Studies - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$43.50**
ANATOMY See BIO		
(ANT) ANTHROPOLOGY		
ANT 100 Introduction to Anthropology - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$43.50** $54.45
ANT 211 Physical Anthropology & Archeology - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$43.50** $50.00

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
ANT 221 Sociocultural Anthropology - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$43.50** $50.00
(APA) APPLIED ARTS		
APA 110 Water Color Painting - 2 Sem Hrs - (3 contact hrs)	$34.00 Center	$34.00
APA 111 Opaque Methods of Painting: Oil or Acrylic - 2 Sem Hrs - (3 contact hrs)	$34.00 Center	$34.00
APA 120 Constructed Jewelry & Metalwork - 2 Sem Hrs - (3 contact hrs)	$39.00 Center	$44.95
APA 121 Jewelry & Metalwork: Centrifugal Casting - 2 Sem Hrs - (3 contact hrs)	$39.00 Center	$39.00
APA 130 Introduction to Handspinning, Weaving & Natural Dyeing - 2 Sem Hrs - (3 contact hrs)	$39.00 Center	$39.00
(APM) AIRFRAME AND POWERPLANT MECHANICS		
(Aviation Mechanics) See also AFM, PPM		
APM 111 Basic Electricity - 3 Sem Hrs - (4.5 contact hrs) South Campus	$48.50	$53.50 - $58.00
APM 112 Mathematics - 2 sem Hrs - (2.75 contact hrs) South Campus	$34.00	$55.50 - $60.00
APM 113 Basic Physics, Aerodynamics, & Weight & Balance - 3 Sem Hrs - (4.25 contact hrs) South Campus	$48.50	$48.50 - $54.50
APM 114 Materials & Processes - 3 Sem Hrs - (4.25 contact hrs) South Campus	$48.50	$48.50 - $54.50
APM 115 Aircraft Drawing - 2 Sem Hrs - (3.75 contact hrs) South Campus	$34.00	$34.00 - $40.00
APM 116 Maintenance Forms & Mechanic Certification - 2 Sem Hrs - (2.75 contact hrs) South Campus	$34.00	$34.00 - $40.00
APM 117 Cleaning & Corrosion Control - 2 Sem Hrs - (2.75 contact hrs) South Campus	$34.00	$34.00 - $40.00

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COURSE	TUITION/FEES		TOTAL ESTIMATED COST*
APM 118 Tests, Preparation & Practice (Core) 3 Sem Hrs - (3.75 contact hrs) South Campus	$48.50		$52.00
APM 251 Aviation Seminar - 1 Sem Hr - (1.5 contact hrs) South Campus	$19.50		$19.50
APM 252 Aviation Seminar - 2 Sem Hrs - (3 contact hrs) South Campus	$34.00		$34.00
APM 253 Aviation Seminar - 3 Sem Hrs - (4.5 contact hrs) South Campus	$48.50		$48.50
APM 254 Aviation Seminar - 4 Sem Hrs - (6 contact hrs) South Campus	$63.00		$63.00
APM 255 Aviation Seminar - 5 Sem Hrs - (7.5 contact hrs) South Campus	$77.50		$77.50
(ART) ART			
ART 106 Basic Drawing I - 3 Sem Hrs - (6 contact hrs)	$48.50	Center	$48.50
	$48.50	South	$48.50
ART 107 Basic Drawing II - 3 Sem Hrs - (6 contact hrs)	$48.50	Center	$48.50
	$48.50	South	$48.50
ART 136 Color & Design I - 3 Sem Hrs - (6 contact hrs)	$48.50	South	$48.50
	$48.50	Center	$48.50**
ART 137 Color & Design II - 3 Sem Hrs - (6 contact hrs)	$43.50	Center	$43.50**
	$48.50	South	$48.50
ART 146 Ceramic I - 3 Sem Hrs - (6 contact hrs)	$53.50	Center	$64.45
	$53.50	South	$53.50 - $64.75
ART 147 Ceramics II - 3 Sem Hrs - (6 contact hrs)	$53.50	Center	$53.50
	$53.50	South	$53.50
ART 161 Elements of Art - 3 Sem Hrs - (3 contact hrs)	$43.50	Center	$43.50**
	$43.50	South	$54.45
ART 206 Life Drawing I - 3 Sem Hrs - (6 contact hrs)	$43.50	Center	$43.50**
	$53.50	South	$61.65
ART 207 Life Drawing II - 3 Sem Hrs - (6 contact hrs)	$53.50	South	$53.50
	$43.50	Center	$43.50**
ART 210 Beginning Watercolor Painting - 3 Sem Hrs - (6 contact hrs)	$43.50	Center	$43.50**
	$48.50	South	$48.50

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
ART 216 Basic Painting I - 3 Sem Hrs - (6 contact hrs)	$48.50 Center	$48.50**
	$48.50 South	$48.50
ART 217 Oil Painting - Painting II - 3 Sem Hrs - (6 contact hrs)	$43.50 Center	$43.50**
	$48.50 South	$48.50
ART 220 Jewel & Metalwork - 4 Sem Hrs - (7 contact hrs)	$73.00 Center	$78.95
	$73.00 South	$73.00
ART 256 Sculpture I - 3 Sem Hrs - (6 contact hrs)	$43.50 Center	$43.50**
	$53.50 South	$53.50
ART 257 Sculpture II - 3 Sem Hrs - (6 contact hrs)	$43.50 Center	$43.50**
	$53.50	$53.50
ART 261 Art of the Western World I - 3 Sem Hrs - (3 contact hrs)	$43.50 Center	$43.50**
	$43.50 South	$58.45
ART 262 Art of the Western World II - 3 Sem Hrs - (3 contact hrs)	$43.50 Center	$43.50**
	$43.50 South	$43.50**
ART 265 Structure of Modern Art - 3 Sem Hrs - (3 contact hrs)	$43.50 Center	$43.50**
	$43.50 South	$57.45

(AST) ASTRONOMY

COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
AST 103 General Astronomy I - 2 Sem Hrs - (2 contact hrs)	$29.00 Center	$29.00**
	$29.00 South	$39.50 - $43.25
AST 104 General Astronomy II - 2 Sem Hrs - (2 contact hrs)	$29.00 Center	$29.00**
	$29.00 South	$29.00

(ATA) AUTOMOTIVE

COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
ATA 110 Automotive - Brake Systems - Theory & Operation - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$38.25
ATA 111 Automotive - Brake Servicing - 2 Sem Hrs - (2 contact hrs) South Campus	$34.00	$43.25
ATA 112 Automotive - Supension Systems - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00 - $41.95
ATA 113 Automotive - Suspension Diagnosis and Servicing - 2 Sem Hrs - (2 contact hrs) South Campus	$34.00	$34.00

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
ATA 120 Automotive - Engine Fundamentals - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$41.65
ATA 125 Automotive - Engine Laboratory - 4 Sem Hrs - (4 contact hrs) South Campus	$68.00	$68.00
ATA 126 Automotive - Fuel, Lubricating & Cooling Systems Servicing - 2 Sem Hrs - (2 contact hrs) South Campus	$34.00	$46.95
ATA 135 Automotive - Electrical Fundamentals, Lighting & Accessories - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$41.65
ATA 136 Automotive - Ignition Systems - 2 Sem Hrs - (2 contact hrs) South Campus	$34.00	$34.00
ATA 145 Automotive - Carburetion & Emission Systems - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00 - $41.95
ATA 146 Automotive - Carburetion & Emission Systems - Servicing - 2 Sem Hrs (2 contact hrs) South Campus	$34.00	$34.00
ATA 150 Automotive - Standard Transmissions & Power Train Systems - 2 Sem Hrs (2 contact hrs) South Campus	$34.00	$45.95
ATA 161 Automotive Air Conditioning - 2 Sem Hrs - (2 contact hrs) South Campus	$34.00	$41.00
ATA 171 Automotive - Automotive Service Management - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00**
ATA 180 Automotive - Diesel Engines - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00 - $41.95
ATA 185 Diesel - Fuel Injection I - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$47.00
ATA 186 Diesel Fuel Injection II - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$31.20
ATA 235 Automotive - Cranking Systems - 2 Sem Hrs - (2 contact hrs) South Campus	$34.00	$34.00
ATA 236 Automotive - Electrical Charging Systems - 2 Sem Hrs - (2 contact hrs) South Campus	$34.00	$34.00

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
ATA 245 Automotive - Diagnosis & Emission Adjustments (Tune-up) - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$35.10
ATA 246 Automotive - Emission Systems Servicing (Tune-up) - 2 Sem Hrs - (2 contact hrs) South Campus	$34.00	$34.00
ATA 255 Automotive Automatic Transmission System - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$58.00
ATA 256 Automotive - Automatic Transmission Servicing - 2 Sem Hrs - (2 contact hrs) South Campus	$34.00	$34.00
ATA 261 Automotive - Air Conditioning Servicing - 2 Sem Hrs - (2 contact hrs) South Campus	$34.00	$41.80
(ATC) BUILDING CONSTRUCTION & MAINTENANCE		
ATC 110 Construction - Blueprint I & Math I - 2 Sem Hrs - (2 contact hrs) South Campus	$32.00	$48.95
ATC 115 Construction - Blueprint II & Math II - 2 Sem Hrs - (2 contact hrs) South Campus	$32.00	$32.00**
ATC 116 Construction - Cost Estimating - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00**
ATC 118 Construction - Electrical Blueprint Reading (Residential) - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$36.80
ATC 119 Construction - Electrical Blueprint Reading (Commercial) - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$34.20
ATC 125 Construction - Wiring Residential - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$40.00
ATC 126 Construction - Wiring Commercial & Industrial - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$37.35
ATC 135 Construction - Masonry Science I - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00**

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
ATC 136 Construction-Masonry Science II (Quantity Estimating) - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00
ATC 140 Construction-Hand Woodworking Tools-Care & Use - 3 Sem Hrs - (3 contact hrs) South Campus	$53.50	$63.20
ATC 141 Construction-Power Tools-Care & Use - 3 Sem Hrs - (3 contact hrs) South Campus	$53.50	$58.00
ATC 151 Construction-Layout Surveying - 2 Sem Hrs - (2 contact hrs) South Campus	$32.00	$32.00**
ATC 210 Electrical Blueprint Reading (Utility & Industrial) - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$38.15
(ATD) DRAFTING & DESIGN		
ATD 162 Drafting-Structural Drawing - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00**
ATD 163 Drafting - Conveyors - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00**
ATD 164 Drafting-Plant Layout & Equipment 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00**
ATD 175 Drafting-Sheet Metal-Parallel Line Layout - 2 Sem Hrs - (2 contact hrs) South Campus	$34.00	$42.75
ATD 176 Drafting-Sheet Metal-Radial Line & Triangulation Layout - 2 Sem Hrs - (2 contact hrs) South Campus	$34.00	$49.75
ATD 177 Drafting-Steel Metal Triangulation Applications - 2 Sem Hrs - (2 contact hrs) South Campus	$34.00	$34.00
ATD 178 Drafting-Sheet Metal-Short Cut Applications - 2 Sem Hrs - (2 contact hrs) South Campus	$34.00	$34.00
ATD 190 Drafting-Machine Tool Blueprint Reading - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$36.95
ATD 195 Drafting-Essentials - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$61.75

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
ATD 196 Drafting-Conventions & Symbols - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.70
ATD 197 Drafting- Three Dimensional Shape Interpretation - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$30.05
ATD 198 Drafting-Advanced Techniques - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$31.80
ATD 204 Drafting-Elements of Body Fixture Design I 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00**
ATD 205 Drafting-Introduction to Body Drafting 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$39.65
ATD 206 Drafting-Advanced Body Drafting - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00**
ATD 208 Drafting-Body Design & Layout - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$35.25
ATD 209 Drafting-Surface Development - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$36.37
ATD 215 Drafting-Tool Detailing & Assembly - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$42.65
ATD 216 Drafting-Tool Detailing & Cam Layout - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$31.80
ATD 217 Drafting-Tool & Gauge Design - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$31.80
ATD 218 Drafting-Special Machine I - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00**
ATD 219 Drafting-Special Machine II - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00**
ATD 221 Drafting-Mold Making & Die Cast Dies - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$46.20

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
ATD 245 Drafting-Die Construction & Assembly - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$36.75
ATD 246 Drafting-Die Design-Cutting Dies - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$35.95
ATD 247 Drafting-Die Design-Forming Dies - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$43.25**
ATD 255 Drafting-Pattern Blueprints & Layout - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$30.20**
ATD 256 Drafting-Pattern Design - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00
ATD 275 Drafting-Industrial Application Machine Guards - 2 Sem Hrs - (2 contact hrs) South Campus	$34.00	$36.75 - $43.75
ATD 276 Drafting-Sheet Metal - Industrial Application Air Handling Systems - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00 - $44.75
ATD 281 Drafting-Forging Die-Layout & Design - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00**
ATD 295 Drafting-Descriptive Geometry-Points & Lines - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$43.05
ATD 296 Drafting-Descriptive Geometry-Lines & Planes - 2 Sem Hrs - (2 contact hrs)	$29.00	$29.55
ATD 297 Drafting-Descriptive Geometry-Intersection of Solids - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.55
ATD 298 Drafting-Panel Tipping - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$38.94**
(ATE) ELECTRICITY & ELECTRONICS		
ATE 111 Electrical-Fundamentals for Non-Electrical Tradesmen - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$43.29

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
ATE 125 Electrical-Basic Direct & Alternating Current Motor Control Circuits - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$37.90
ATE 126 Electrical-Magnetism & Generators - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$38.95
ATE 130 Electrical Theory-Electrical Tools, Equipment & Circuits - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$35.25
ATE 135 Electrical-Direct Current Fundamentals 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00 - $33.50
ATE 164 Electrical-Automation Circuits & Logic Fundamentals (Special Extended Laboratory Experience) - 3 Sem Hrs - (3 contact hrs) South Campus	$29.00	$48.10
ATE 165 Electrical-Automation Circuits & Logic Fundamentals - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$33.60
ATE 225 Electrical-Direct Current Motors & Instruments - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$48.90
ATE 226 Electrical-Alternating Current Machines - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$40.95
ATE 227 Electrical-Advanced Direct & Alternating Current Motor Controls Circuits - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$38.95
ATE 235 Electrical-Single Phase Alternating Current Fundamentals - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$48.45
ATE 236 Electrical-Polyphase Alternating Current Fundamentals, Electrical Instruments & Illumination - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$36.95
ATE 241 Electrical-National Electrical Code - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$41.45
ATE 255 Electrical-Electronic Fundamentals - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$45.95

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
ATE 256 Electrical-Welding Controllers - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$48.55
ATE 257 Electrical Electronic Controller Applications - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$36.75
ATE 258 Electrical-Electronic Control Laboratory - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$37.00
ATE 266 Electrical-Solid State Logics & Circuitry - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$39.50
ATE 267 Electrical-Industrial Controls - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00**
ATE 268 Electrical-Servicing N/C Equipment - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00**
(ATF) FLUID POWER TECHNOLOGY		
ATF 110 Fluid Power-Fundamentals - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$35.95
ATF 111 Fluid Power-Pumps - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$32.35
ATF 112 Fluid Power-Controls - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$34.80
ATF 114 Fluid Power-Basic Circuits (Special extended laboratory experience) - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$49.40
ATF 115 Fluid Power-Basic Circuits - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$34.90
ATF 121 Fluid Power-Pneumatics - 2 Sem Hrs (2 contact hrs) South Campus	$29.00	$47.60
ATF 215 Fluid Power-Advance Circuits - 2 Sem Hrs (2 contact hrs) South Campus	$29.00	$41.70
ATF 216 Fluid Power-Hydraulic-Pneumatic Laboratory - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$47.60

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
(ATM) APPLIED TECHNOLOGY MATHEMATICS		
ATM 010 Mathematics - Review Arithmetic - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.95
ATM 115 Mathematics-Shop Arithmetic - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$41.00
ATM 116 Algebra - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$39.95
ATM 117 Mathematics-Geometry - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$37.25
ATM 135 Mathematics-Arithmetic, Slide Rule and Introductory Algebra for Electrical and Allied Crafts - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$47.90
ATM 136 Mathematics-Algebra for Electrical and Allied Crafts - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00
ATM 214 Mathematics-Strength of Materials - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00**
ATM 215 Mathematics-Trigonometry - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00
ATM 216 Mathematics-Trigonometry and Shop Application - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00
ATM 217 Mathematics-Compound Angles - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00
ATM 219 Mathematics-Gearing - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$33.95
ATM 225 Mathematics-Engineering Algebra - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00**
ATM 226 Mathematics-Engineering Algebra - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00
ATM 235 Mathematics-Geometry, Trigonometry, Vectors and Slide Rule for Electrical and Allied Crafts - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
(ATP) PLUMBING AND PIPEFITTING		
ATP 110 Plumbing Fundamentals - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$38.15
ATP 111 Plumbing-Drain, Waste and Vent - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$34.50
ATP 112 Plumbing-Heating - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$33.60
ATP 113 Plumbing-Code - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$41.50
ATP 114 Pipefitting-Power Piping Systems - 3 Sem Hrs - (2 contact hrs) South Campus	$43.50	$43.50**
(ATR) REFRIGERATION AND AIR CONDITIONING		
ATR 110 Refrigeration-Fundamentals - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$51.00
ATR 115 Refrigeration-Commercial & Industrial - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00
ATR 116 Refrigeration-Air Conditioning Systems: Commercial & Industrial - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$41.45
ATR 211 Refrigeration Systems & Equipment Controls - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00**
ATR 214 Refrigeration-Code - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$39.00
(ATS) STATIONARY STEAM		
ATS 110 Steam-Boiler Maintenance and Repair - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00**
ATS 115 Steam-Heat Fundamentals - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$43.00
ATS 116 Steam-Steam Boilers (Low and High Pressure Operation) - 2 Sem Hrs - (2 contact hrs) South Campus	$32.00	$39.00
ATS 117 Steam-Boiler Auxilaries - 2 Sem Hrs - (2 contact hrs) South Campus	$32.00	$48.00
ATS 215 Steam-Heat Engines, Reciprocating - 2 Sem Hrs - (2 contact hrs) South Campus	$32.00	$32.00

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
ATS 216 Steam-Heat Engines, Turbine - 2 Sem Hrs - (2 contact hrs) South Campus	$32.00	$32.00**
(ATT) METAL CRAFT THEORY		
ATT 110 Machine Theory-Machine Operation-Laboratory - 2 Sem Hrs - (2 contact hrs) South Campus	$34.00	$34.00**
ATT 115 Machine Theory-Machine Tool Laboratory I - 3 Sem Hrs - (3 contact hrs) South Campus	$53.50	$64.35
ATT 116 Machine Theory-Machine Tool Laboratory II - 3 Sem Hrs - (3 contact hrs) South Campus	$53.50	$64.25
ATT 117 Machine Theory-Machine Tool Laboratory III - 3 Sem Hrs - (3 contact hrs) South Campus	$53.50	$63.75
ATT 120 Machine Theory-Machine Principles - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$39.25
ATT 121 Machine Theory-Benchwork, Drill Presses and Lathes - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$39.75
ATT 125 Machine Theory-Shapers, Planers, Mills and Grinders - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$39.75
ATT 130 Metallurgy-Characteristics of Ferrous Metals - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$35.50
ATT 131 Metallurgy-Characteristics of Non-Ferrous Metals - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$35.10
ATT 140 Science-Industrial Chemistry 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00**
ATT 150 Pattern Theory-Pattern Making Tools and Materials - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$35.00

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
ATT 151 Pattern Theory-Foundry Practices - 2 Sem Hrs - (2 contact hrs) South Campus	$34.00	$52.50
ATT 152 Pattern Theory-Job Molding and Coremaking - 2 Sem Hrs - (2 contact hrs) South Campus	$34.00	$52.50
ATT 165 Millwright Theory-Millwright Theory I - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$38.00
ATT 166 Millwright Theory-Millwright Theory II - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$38.00
ATT 170 Plastics Technology I - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$36.95
ATT 175 Plastics Technology II - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$45.95
ATT 180 Forge Theory-Forging Principles - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00**
ATT 195 Science-Physics I: Mechanics - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$31.25
ATT 215 Machine Theory-Machine Tool Laboratory IV - 3 Sem Hrs - (3 contact hrs) South Campus	$53.50	$63.75
ATT 217 Machine Theory-Manual Programming of Numerical Control Machines-Laboratory - 2 Sem Hrs - (2 contact hrs) South Campus	$34.00	$44.95
ATT 225 Machine Theory-Modern Metal Removal Processes - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$39.50
ATT 226 Machine Theory-Numerical Control Concepts-Total System - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$41.00
ATT 235 Metallurgy-Heat Treatment of Ferrous Alloys - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$34.00

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
ATT 295 Science-Physics II: Heat, Sound & Light - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$31.25
(ATV) APPLIED TECHNOLOGY RELATED		
ATV 110 Technical English - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$39.50
ATV 115 Technical Report Writing - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$39.50
ATV 120 Process Engineering - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$47.95
ATV 125 Automation - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00**
ATV 130 Industrial Psychology - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$42.95
ATV 140 Political Science - 4 Sem Hrs - (4 contact hrs) South Campus	$58.00	$58.00**
ATV 150 Industrial Economics - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00**
ATV 151 Manufacturing Supervision - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$42.95
ATV 152 Industrial Organizations - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00**
ATV 153 Industrial Relation - 2 Sem Hrs (2 contact hrs) South Campus	$29.00	$29.00**
(ATW) WELDING		
ATW 110 Welding-Introduction to Welding Metallurgy - 2 Sem Hrs - (2 contact hrs) South Campus	$39.00	$41.50
ATW 111 Welding-Fundamentals: Oxy-Acetylene and Arc Welding - 2 Sem Hrs - (2 contact hrs) South Campus	$39.00	$46.20
ATW 112 Welding-Oxgen-Acetylene Welding - 2 Sem Hrs - (2 contact hrs) South Campus	$39.00	$39.00 - $42.60
ATW 113 Welding-Arc Welding - 2 Sem Hrs - (2 contact hrs) South Campus	$39.00	$39.00 - $42.60

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
ATW 115 Welding-Gas Tungsten Arc Welding - 2 Sem Hrs - (2 contact hrs) South Campus	$39.00	$42.80
ATW 211 Welding-Pipe Welding - 2 Sem Hrs (2 contact hrs) South Campus	$39.00	$39.00**
ATW 212 Welding-Tool & Die Welding - 2 Sem Hrs - (2 contact hrs) South Campus	$39.00	$41.50
ATW 213 Welding-Introduction to Maintenance Welding by Metals - 2 Sem Hrs - (2 contact hrs) South Campus	$39.00	$39.00**
AVIATION MECHANICS See AFM, APM, PPM		
BCO BUSINESS COMMUNICATIONS		
BCO 204 Business Correspondence - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$58.50
BCO 205 Business Communications - 4 Sem Hrs - (4 contact hrs) South Campus	$58.00	$70.50
(BDP) BUSINESS DATA PROCESSING		
BDP 101 Computer and Data Processing Principles - 4 Sem Hrs - (4 contact hrs)	$63.00 Center $63.00 South	$75.50 $79.90
BDP 105 Key Punch and Punched Card Equipment - 3 Sem Hrs - (3 contact hrs) South Campus	$48.50	$57.60
BDP 120 Basic Programming Language - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$43.50**
BDP 121 Programming in Report Program Generator (RPG) Language - 4 Sem Hrs - (4 contact hrs) South Campus	$63.00	$74.05 - $74.25
BDP 220 Introduction to Fortran - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$43.50**
BDP 226 COBOL Programming I - 4 Sem Hrs - (4 contact hrs) South Campus	$63.00	$74.10 - $81.05
BDP 227 COBOL Programming II - 4 Sem Hrs - (4 contact hrs) South Campus	$63.00	$72.95 - $84.95

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COURSE	TUITION/FEES	TOTAL ESTIMATED COSTS*
BDP 235 Systems Analysis and Design - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$43.50**
BDP 236 Administrative Systems - 4 Sem Hrs - (4 contact hrs) South Campus	$63.00	$80.90
BDP 237 Computer System Design - 4 Sem Hrs - (4 contact hrs) South Campus	$63.00	$63.00
BDP 240 Software Concepts - 4 Sem Hrs - (4 contact hrs) South Campus	$63.00	$70.95
(BIO) BIOLOGY		
BIO 100 General Biology - 4 Sem Hrs - (6 contact hrs) South Campus	$68.00	$86.90**
BIO 101 Introductory Biology - 4 Sem Hrs - (7 contact hrs) Center Campus	$68.00	$85.50 - $90.50
BIO 110 General Botany - 4 Sem Hrs - (7 contact hrs)	$68.00 Center $68.00 South	$83.05 $88.45
BIO 120 General Zoology - 4 Sem Hrs - (7 contact hrs)	$68.00 Center $68.00 South	$87.50 $90.55
BIO 160 Hygiene - 2 Sem Hrs - (2 contact hrs)	$29.00 Center $29.00 South	$29.00** $36.60
BIO 211 Local Michigan Plants - 3 Sem Hrs - (3 contact hrs)	$53.50 Center $43.50 South	$64.45 $43.50**
BIO 231 Human Anatomy and Physiology - 4 Sem Hrs - (8 contact hrs)	$58.00 Center $68.00 South	$58.00** $90.90
BIO 234 Comparative Vertebrate Anatomy - 4 Sem Hrs - (8 contact hrs)	$58.00 Center $73.00 South	$58.00** $83.95
BIO 240 Microbiology - 3 Sem Hrs - (5 contact hrs) South Campus	$53.50	$77.40
BIO 241 General Microbiology - 4 Sem Hrs - (6 contact hrs) Center Campus	$68.00	$93.45
BIO 271 Physiological Anatomy - 6 Sem Hrs - (7 contact hrs)	$97.00	$117.20
BIO 273 Pathogenic Microbiology - 4 Sem Hrs - (6 contact hrs)	$68.00	$87.90

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
BIO 275 Medical Bacteriology, Mycology, & Parasitology - 4 Sem Hrs - (6 contact hrs)	$68.00	$68.00**
BLUEPRINT READING See ATD, DBP		
(BMA) BUSINESS MATHEMATICS		
BMA 101 Business Mathematics - 3 Sem Hrs - (3 contact hours)	$43.50 Center $43.50 South	$49.50 $57.25
BODY DRAFTING See ATD		
BOOKKEEPING See ACC		
BOTANY See BIO		
(BUS) GENERAL BUSINESS		
BUS 101 Introduction to Business - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$64.40 $56.00 - $60.95
BUS 102 Human Relations - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$54.45
BUS 103 Law for the Consumer - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$43.50
BUS 104 Labor Relations - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$49.45
BUS 108 Business Law I - 4 Sem Hrs - (4 contact hrs)	$58.00 Center $58.00 South	$71.75 $71.75
BUS 109 Business Law II - 4 Sem Hrs - (4 contact hrs)	$58.00 Center $58.00 South	$58.00 $58.00
BUS 201 Personal Finance - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$55.45
BUS 250 Business cooperative Intership - 3 or 6 Sem Hrs - (3 or 6 contact hrs) South Campus	$43.50/87.00	$43.50 - $87.00
BUS 255 Business Cooperative Education - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$43.50**
BUS 260 Business Directed Study - 2-4 Sem Hrs - (2-4 contact hrs) South Campus	$29.00/58.00	$29.00 - $58.00

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
BUS 270 Business Externship Seminar - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	
BUS 279 Business Directed Studies - 3 Sem Hrs - (3 contact hrs)	$43.50	$43.50**
BUSINESS ADMINISTRATION See ACC, BDP, BUS, MGT, OFF		
BUSINESS COMMUNICATIONS/CORRESPONDENCE See BCO		
BUSINESS MATHEMATICS See BMA		
(CCT) CLIMATE CONTROL TECHNOLOGY		
CCT 120 Fundamentals of Air Conditioning & Refrigeration - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$73.25
CCT 130 Refrigeration I - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$51.80
CCT 140 Air Conditioning I - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$64.00
CCT 144 Automotive Air Conditioning - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$55.50
CCT 150 Heating I - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$73.80
CCT 160 Duct Layout & Fabrication - 3 Sem Hrs - (4 contact hrs) South Campus	$53.50	$62.25
CCT 170 Fundamentals of Controls - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$73.05
CCT 230 Refrigeration II - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$61.75
CCT 232 Refrigeration Code - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$34.00
CCT 240 Air Conditioning II - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$81.50
CCT 250 Heating II - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$89.65
CCT 252 Heating Code - 2 Sem Hrs - (2 contact hrs) South Campus	$43.50	$48.50

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
CCT 255 Steam & Hot Water Heating Systems - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$52.35
CCT 270 Advanced Controls - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$68.50
CCT 280 Energy Conservation & Solar Heating - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$55.45
(CHM) CHEMISTRY		
CHM 105 General Chemistry I- 4 Sem Hrs - (7 contact hrs)	$73.00 Center $73.00 South	$86.50 $93.60 - $141.40
CHM 106 General Chemistry II - 4 Sem Hrs - (7 contact hrs)	$73.00 Center $73.00 South	$84.50 $73.00
CHM 117 Principles of Chemistry I - 4 Sem Hrs - (7 contact hrs)	$73.00 Center $73.00 South	$87.95 $94.35
CHM 118 Principles of Chemistry II - 4 Sem Hrs - (7 contact hrs)	$73.00 Center $73.00 South	$81.50 $85.10
CHM 119 Principles of Chemistry II - 4 Sem Hrs - (8 contact hrs)		
CHM 226 Organic Chemistry I - 4 Sem Hrs - (4 contact hrs)	$58.00 Center $73.00 South	$58.00** $107.95
CHM 227 Organic Chemistry Laboratory - 2 Sem Hrs - (7 contact hrs)	$29.00 Center $73.00 South	$29.00** $73.00**
CHM 228 Organic Chemistry II - 4 Sem Hrs - (4 contact hrs)	$58.00 Center $58.00 South	$58.00** $58.00**
CHM 235 Quantitative Analysis - 5 Sem Hrs - (9 contact hrs)	$72.50 Center $72.50 South	$72.50 $88.45
(CIV) CIVIL TECHNOLOGY		
CIV 100 Materials - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$56.45
CIV 101 Civil Technology Seminar - 1 Sem Hr - (1 contact hr) South Campus	$43.50	$43.50
CIV 110 Construction Methods & Equipment - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$62.00
CIV 111 Mechanics (Statics & Dynamics) 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$57.00

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
CIV 210 Strength of Materials - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$48.50
CIV 211 Applied Building Construction - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$62.45
CIV 212 Reinforced Concrete Construction - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$68.00
CIV 220 Soils & Foundations - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$48.50**
CIV 221 Drainage & Geology - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$52.95
COMMERCIAL ART See GCA		
COMMUNICATIONS See BCO, ENG, RDG, SPH		
COMPOSITION See ENG		
COMPUTER PROGRAMMING See BDP, NCT		
COOPERATIVE EDUCATION See BUS, OFF, TCI		
(DAB) DRAFTING-AUTO BODY (DESIGN TECHNOLOGY) See also DAC, DBP, DPW, DSM, DST, DTF		
DAB 151 Body Blueprint Reading 1-2 Sem Hrs - (4 contact hrs) South Campus	$34.00	$52.75
DAB 206 Body Detailing - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$63.25
DAB 207 Surface Development - 2 Sem Hrs - (4 contact hrs) South Campus	$34.00	$50.45
DAB 208 Body Layout - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$58.20 - $64.95
(DAC) DRAFTING - ARCHITECTURAL (DESIGN TECHNOLOGY) See also DAB, DBP, DPW, DSM, DST, DTF		
DAC 110 Perspective Drawing & Visualization 2 Sem Hrs - (4 contact hrs) South Campus	$34.00	$43.95
DAC 118 Architectural Drafting I - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$72.45 - $87.05

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
DAC 119 Architectural Drafting II - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$65.45
DAC 120 History of Architecture - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$66.00
DAC 121 Architectural Design Procedures - 2 Sem Hrs - (4 contact hrs) South Campus	$29.00	$29.00**
DAC 122 Materials Handling Survey - 3 Sem Hrs - (3 contact hrs)	$43.50	$43.50**
DAC 123 Plant Layout - 3 Sem Hrs - (4 contact hrs) South Campus	$43.50	$43.50**
DAC 210 Structural Drafting - 2 Sem Hrs - (4 contact hrs) South Campus	$34.00	$76.80
DAC 211 Structural Drafting II - 3 Sem Hrs - (4 contact hrs) South Campus	$43.50	$43.50**
DAC 218 Architectural Drafting III 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$48.50
DAC 219 Architectural Drafting IV - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$48.50
DAC 220 Design Elements of Environmental Control Systems - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$67.40
DAC 221 Building Specifications - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$52.00
DAC 222 Controls Circuit Design - 3 Sem Hrs - (4 contact hrs) South Campus	$43.50	$43.50**
DAC 223 Conveyor Detail & Design - 3 Sem Hrs - (4 contact hrs) South Campus	$43.50	$43.50**
DATA PROCESSING See BDP, MTH		
(DBP) DRAFTING - BLUEPRINT READING (DESIGN TECHNOLOGY) See also DAB, DAC, DPW, DSM, DST, DTF		
DBP 150 Blueprint Fundamentals - 2 Sem Hrs - (4 contact hrs) South Campus	$34.00	$39.50

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
DESIGN (INTERIOR) See GCA		
DESIGN TECHNOLOGY See DAB, DAC, DBP, DPW DSM, DST, DTF		
DIE CAST/DRAFTING See ATD		
DIESEL ENGINES See ATA		
DIRECTED STUDIES See BUS, HUM, PED		
(DOA) DENTAL ASSISTANT		
DOA 116 Elements of Dental Assisting - 4 Sem Hrs - (5 contact hrs) Center Campus	$63.00	$78.50
DOA 117 Basic Assisting Skills - 4 Sem Hrs - (5 contact hrs) Center Campus	$68.00	$77.75
DOA 126 Dental Materials I - 3 Sem Hrs - (4.5 contact hrs)Center Campus	$53.50	$53.50
DOA 127 Dental Materials II - 3 Sem Hrs - (4.5 contact hrs) Center Campus	$53.50	$53.50**
DOA 130 Principles of Dental Science - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$43.50
DOA 146 Principles of Radiology - 3 Sem Hrs - (4 contact hrs) Center Campus	$53.50	$62.45
DOA 147 Radiographic Techniques - 2 Sem Hrs - (3 contact hrs) Center Campus	$34.00	$34.00
DOA 150 Dental Office Procedures - 4 Sem Hrs - (4 contact hrs) Center Campus	$63.00	$71.00
DOA 160 Seminar - 2 Sem Hrs - (2 contact hrs) Center Campus	$29.00	$29.00**
DOA 170 Coordinated Dental Business Experience - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$43.50**
(DPW) DRAFTING BLUEPRINT READING-WELDOR (DESIGN TECHNOLOGY) See also DAB, DAC, DBP, DSM, DST, DTF		

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
DPW 115 Print Reading & Layout Techniques for Weldors - 3 Sem Hrs - (4 contact hrs) South Campus	$43.50	$43.50**

DRAFTING & DESIGN

See ATD, DAB, DAC, DBP, DPW, DSM, DST, DTF

(DRA) DRAMA

COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
DRA 161 Theater Appreciation - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$43.50 $43.50**
DRA 170 Acting Fundamentals - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$43.50** $51.45**

(DSM) DRAFTING - SPECIAL MACHINES (DESIGN TECHNOLOGY)

See also DAB, DAC, DBP, DPW, DST, DTF

COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
DSM 100 Gearing Theory - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$43.50**
DSM 105 Design Technology Calculations - 4 Sem Hrs - (4 contact hrs) South Campus	$58.00	$58.00**
DSM 218 Automated Machine Design I - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$50.50 - $56.35
DSM 219 Automated Machine Design II - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$50.50

(DST) DRAFTING (DESIGN TECHNOLOGY)

See also DAB, DAC, DBP, DPW, DSM, DTF

COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
DST 110 Drafting Survey - 4 Sem Hrs - (6 contact hrs) South Campus	$63.00	$86.50 - $106.95
DST 111 Drafting Practices - 4 Sem Hrs - (6 contact hrs) South Campus	$58.00	$65.00**
DST 116 Industrial Processes & Materials - 4 Sem Hrs - (4 contact hrs) South Campus	$58.00	$70.95
DST 125 Descriptive Geometry - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$67.45

(DTF) DRAFTING - TOOL FIXTURE (DESIGN TECHNOLOGY)

See also DAB, DAC, DBP, DPW, DSM, DST

COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
DTF 117 Jig & Fixture Detailing & Design - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$74.30

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
DTF 121 Die Theory - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$47.95
DTF 200 Panel Tipping - 2 Sem Hrs - (4 contact hrs) South Campus	$34.00	$36.00
DTF 228 Die Design I - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$50.50
DTF 229 Die Design II - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$50.50
DTF 236 Body Fixture Detail & Design - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$51.50
DTF 237 Automatic Welding Equipment Design - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$51.50
DTF 246 Mechanical Handling - 2 Sem Hrs - (4 contact hrs) South Campus	$34.00	$34.00
(ECO) ECONOMICS		
ECO 116 Principles of Economics I - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$56.45 - $66.45 $56.45 - $63.35
ECO 117 Principles of Economics II - 3 Sem Hrs - (3 contact hrs)	$43.50 South $43.50 Center	$56.45 - $61.40 $43.50
ECO 120 Consumer Economic Planning - 3 Sem Hrs - (3 contact hrs)	$43.50 South $43.50 Center	$56.00 $43.50**
(EGR) ENGINEERING		
EGR 110 Engineering Drawing - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$67.12 - $81.72**
EGR 111 Descriptive Geometry - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$63.00
EGR 120 Elements of Materials - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$43.50**
EGR 121 Manufacturing Processes - 2 Sem Hrs - (3 contact hrs) South Campus	$34.00	$34.00
ELECTRICITY/ELECTRONICS See ATE, ELT, EST		

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
(ELT) ELECTRO TECHNOLOGY		
ELT 116 Electro Technology I - 3 Sem Hrs _ (4 contact hrs) South Campus	$48.50	$71.70
ELT 117 Electro Techonology II - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$49.25
ELT 118 Electro Technology III - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$70.70
ELT 119 Electro Technology IV - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$49.25
ELT 210 Electro-Hydraulic Servo Systems - 3 Sem Hrs - (4 contact hrs) South Campus	$43.50	$53.25
ELT 218 Automatic Equipment Maintenance I - 3 Sem Hrs - (4 contact hrs) South Campus	$43.50	$47.25**
ELT 219 Automatic Equipment Maintenance II - 3 Sem Hrs - (4 contact hrs) South Campus	$43.50	$58.00**
ELT 227 Logic Controls - 3 Sem Hrs - (4 contact hrs) South Campus	$43.50	$52.05
ELT 228 Industrial Electronics I - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$65.45
ELT 229 Industrial Electronics II - 3 Sem Hrs (4 contact hrs) South Campus	$48.50	$57.45
ELT 230 Communications Equipment Servicing - 3 Sem Hrs - (4 contact hrs) South Campus	$43.50	$58.45
ELT 238 Communications Electronics I - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$48.50
ELT 239 Communications Electronics II - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$48.50
ELT 248 Instrumentation I - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$48.50 **
ELT 249 Instrumentation II - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$69.40

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
(EMT) EMERGENCY MEDICAL TECHNICIAN		
EMT 100 Emergency Medical Technician 6 Sem Hrs - (6 contact hrs) Center Campus	$92.00	$101.15
ENGINEERING DESIGN TECHNOLOGY See DAB, DAC, DBP, DPW, DSM, DST, DTF		
(ENG) ENGLISH		
ENG 005 Preparatory Composition - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$50.50 $67.45
ENG 116 Developing Concrete Expression - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$51.00 - $53.00 $43.50**
ENG 117 Developing Ideas - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$48.50 $43.50**
ENG 118 Communications I - 4 Sem Hrs - (4 contact hrs) South Campus	$58.00	$70.75
ENG 119 Communications II - 4 Sem Hrs. - (4 contact hrs) South Campus	$58.00	$59.75 - $69.90
ENG 121 Composition I - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$47.45 - $53.45 $47.75 - $75.40
ENG 122 Composition II - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$47.75 - $54.45 $47.75 - $68.70
ENG 150 Images of Women in Literature - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$43.50** $43.50
ENG 151 Women Authors - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$43.50** $43.50**
ENG 152 Detective Literature - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$53.45 $43.50**
ENG 153 Bestsellers 3 Sem Hrs - (3 contact Hrs)	$43.50 Center $43.50 South	$63.00 $43.50
ENG 154 Literature of Broadway 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$66.90 $43.50**

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
ENG 173 Contemporary American Literature - 3 Sem Hrs - (3 contact hrs)	$43.50 Center	$61.05
	$43.50 South	$43.50**
ENG 180 Literature & the Arts in Canada - 3 Sem Hrs - (3 contact hrs)	$43.50 Center	$43.50**
	$43.50 South	$43.50**
ENG 181 Bible as Literature - 3 Sem Hrs - (3 contact hrs)	$43.50 Center	$43.50**
	$43.50 South	$46.00
ENG 241 Creative Writing - 3 Sem Hrs - (3 contact hours)	$43.50 Center	$50.00
	$43.50 South	$50.00 - $51.75
ENG 260 Introduction to Poetry - 3 Sem Hrs - (3 contact hrs)	$43.50 Center	$43.50**
	$43.50 South	$49.45
ENG 261 Introduction to Novel - 3 Sem Hrs - (3 contact hrs)	$43.50 Center	$43.50**
	$43.50 South	$43.50**
ENG 262 Introduction to Fiction - 3 Sem Hrs - (3 contact hrs)	$43.50 Center	$43.50**
	$43.50 South	$43.50**
ENG 263 Introduction to Drama - 3 Sem Hrs - (3 contact hrs)	$43.50 Center	$43.50**
	$43.50 South	$43.50**
ENG 264 Children's Literature - 3 Sem hrs - (3 contact hrs)	$43.50 Center	$43.50**
	$43.50 South	$51.30
ENG 271 Nineteenth Century American Literature - 3 Sem Hrs - (3 contact hrs)	$43.50 Center	$58.40
	$43.50 South	$62.70
ENG 272 American Literature, 1900 to 1945 - 3 Sem Hrs - (3 contact hrs)	$43.50 Center	$59.35
	$43.50 South	$43.50**
ENG 273 American Literature, 1945 to Present - 3 Sem Hrs - (3 contact hrs)	$43.50 Center	$43.50**
	$43.50 South	$43.50**
ENG 274 Afro-American Literature 3 Sem Hrs - (3 contact hrs)	$43.50 Center	$43.50**
	$43.50 South	$43.50**
ENG 280 World Literature to 1400 - 3 Sem Hrs - (3 contact hrs)	$43.50 Center	$59.35
	$43.50 South	$47.20
ENG 281 World Literature from 1400 - 3 Sem Hrs - (3 contact hrs)	$43.50 Center	$56.45
	$43.50 South	$43.50**
ENG 290 Directed Studies - - 3 Sem Hrs - (3 contact hrs)	$43.50 Center	$43.50**
	$43.50 South	$43.50**

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
ENG 291 Selected Studies in English - 2-3 Sem Hrs - (2-3 contact hrs) South Campus	$29.00 $43.50	$29.00** $43.50**
(EST)ELECTRONIC SERVICE TECHNOLOGY		
EST 101 Radio-TV-Sound Systems - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$69.30
EST 102 Electronic Components Applications - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$50.40
EST 103 Test Equipment I - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$53.35
EST 104 Test Equipment II - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$48.50
EST 105 Trouble Shooting I - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$62.70
EST 106 Trouble Shooting II - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$48.50
EST 107 Advanced TV Trouble Shooting - 4 Sem Hrs - (4 contact hrs) South Campus	$58.00	$58.00**
EST 108 Advanced Audio-Radio Trouble Shooting - 4 Sem Hrs - (4 contact hrs) South Campus	$58.00	$58.00**
FILM See HUM		
FIRST AID See PED		
FOOD SERVICE See PFS		
(FPT) FLUID POWER TECHNOLOGY		
FPT 100 Fluid Power Fundamentals - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$55.00
FPT 101 Pneumatic Fundamentals - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$57.25

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
FPT 110 Fluid Power Pumps and Compressors - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$54.40
FPT 111 Fluid Power Controls - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$48.50 - $54.40
FPT 112 Fluid Power Circuits - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$48.50
FPT 210 Fluidic Control Systems - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$53.45
FPT 220 Electro Hydraulic Systems - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$48.50**
FPT 239 Pneumatic Circuits - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$48.50**
FPT 290 Fluid Power Laboratory -3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$48.50**
(FRE) FRENCH		
FRENCH CULTURE		
FRE 105 Survey of French Culture - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$43.50** $43.50**
FRENCH LANGUAGE		
FRE 110 French for Travelers - 2 Sem Hrs - (2 contact hrs)	$29.00 Center $29.00 South	$29.00** $30.40
FRE 126 Elementary French - 4 Sem Hrs - (5 contact hrs)	$58.00 Center $58.00 South	$58.00** $74.45
FRE 127 Elementary French - 4 Sem Hrs - (5 contact hrs)	$58.00 Center $58.00 South	$58.00** $58.00 - $74.45
FRE 236 Intermediate French - 4 Sem Hrs - (5 contact hrs)	$58.00 Center $58.00 South	$58.00** $58.00 - $74.45
FRE 237 Intermediate French - 4 Sem Hrs - (5 contact hrs)	$58.00	$58.00**
(FSC) FIRE SCIENCE		

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
FSC 100 Philosophy of Fire Protection - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$83.50
FSC 101 Fundamentals of Fire Prevention - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$50.25
FSC 118 Fire Science I - 4 Sem Hrs - (4 contact hrs) Center Campus	$68.00	$79.00
FSC 119 Fire Science II - 4 Sem Hrs - (4 contact hrs) Center Campus	$68.00	$100.40
FSC 128 Fire Protection Equipment and Systems I - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$63.95
FSC 129 Fire Protection Equipment and Systems II - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$43.50**
FSC 213 Fire Hydraulics and Water Supply - 3 Sem Hrs - (3 contact hrs) Center Campus	$53.50	$53.50**
FSC 230 Fire Department Administration - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$71.45
FSC 241 Building Construction for Fire Protection - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$52.00
FSC 251 Fire Fighting Tactics and Strategy - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$60.45
(GCA) GRAPHIC AND COMMERCIAL ART		
GCA 101 Perspective and Parallel Line Projection - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$50.60
GCA 102 Design I - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$48.50
GCA 103 Advertising Art I - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$48.50
GCA 104 Illustration Fundamentals - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$48.50

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
GCA 105 Keylining - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$48.50
GCA 106 Photography - 3 Sem Hrs - (6 contact hrs) South Campus	$58.50	$66.00
GCA 107 Rendering I - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$48.50
GCA 108 Interior Design I - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$72.95 -$98.40**
GCA 109 Figure Illustration I - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$58.50
GCA 111 Technical Illustration I - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$48.50**
GCA 202 Design II - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$48.50
GCA 203 Advertising Art II - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$48.50
GCA 204 Commercial Silk Screen - 3 Sem Hrs - (6 contact hrs) South Campus	$58.50	$58.50
GCA 208 Interior Design II - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$62.40
GCA 211 Technical Illustration II - 3 Sem Hrs - (6 contact hrs) South Campus	$43.50	$43.50**
GCA 216 Photography II - 3 Sem Hrs - (6 contact hrs) South Campus	$58.50	$58.50
GCA 217 Rendering II - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$48.50
GCA 219 Figure Illustration II - 3 Sem Hrs - (6 contact hrs) South Campus	$58.50	$58.50
GCA 222 Display Design I - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$48.50
GCA 226 Photography III - 3 Sem Hrs - (6 contact hrs) South Campus	$58.50	$58.50

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
GCA 227 Airbrush and Photographic Retouching - 3 Sem Hrs - (6 contact hrs) South Campus	$53.50	$53.50
(GEC) GENERAL EDUCATION CO-OP		
GEC 250 General Education Co-op - 2 or 3 Sem Hrs - (2 or 3 contact hrs)	$29.00-$43.50	$29.00** - $43.50**
(GEL) GEOLOGY		
GEL 106 Principles of Geology I - 4 Sem Hrs - (6 contact hrs)	$58.00 Center $68.00 South	$58.00** $88.90 - $102.90
GEL 107 Principles of Geology II - 4 Sem Hrs - (6 contact hrs)	$58.00 Center $68.00 South	$58.00** $68.00
(GEO) GEOGRAPHY		
GEO 110 Principles of Geography - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$57.45 $57.00
GEO 120 World Geography - 3 Sem Hrs (3 contact hrs)	$43.50	$56.45
GEO 130 Economic Geography - 3 Sem Hrs - (3 contact hrs)	$43.50 South	$43.50**
GEO 140 Physical Geography - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$43.50** $43.50 - $57.00
(GER) GERMAN		
GERMAN CULTURE		
GER 105 Survey of German Culture - 3 Sem Hrs - (3 contact hrs)	$43.50	$43.50**
GERMAN LANGUAGE		
GER 110 German for Travelers - 2 Sem Hrs - (2 contact hrs)	$29.00 Center $29.00 South	$29.00** $30.40
GER 126 Elementary German - 4 Sem Hrs - (5 contact hrs)	$58.00 Center $58.00 South	$58.00** $73.85
GER 127 Elementary German - 4 Sem Hrs - (5 contact hrs)	$58.00 Center $58.00 South	$58.00** $69.90

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
GER 236 Intermediate German - 4 Sem Hrs - (5 contact hrs)	$58.00 Center $58.00 South	$58.00** $72.45
Ger 237 Intermediate German - 4 Sem Hrs - (5 contact hrs)	$58.00	$58.00**
HEATING See CCT		
(HIS) HISTORY		
HIS 110 Western Heritage to 1500 - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$50.20 $56.45
HIS 120 Europe, 1500-1815 - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$59.45 $51.45
HIS 121 19th and 20th Century Europe 3 Sem Hrs (3 contact hrs)	$43.50 Center $43.50 South	$43.50 $49.75
HIS 230 History of the United States, 1607-1865 - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$50.45 $49.00 - $53.45
HIS 231 History of the United States, 1865 to the Present - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$43.50 $49.45 - $55.20
HIS 234 The Black Experience in White America - 3 Sem Hrs - (3 contact hrs)	$43.50	$43.50**
HIS 241 Latin America and Its Heritage - 3 Sem Hrs - (3 contact hrs)	$43.50	$57.60 - $59.55**
HIS 242 Latin America in the Modern World - 3 Sem Hrs - (3 contact hrs)	$43.50	$43.50**
HIS 251 Asia and Its Heritage - 4 Sem Hrs - (4 contact hrs)	$58.00 Center $58.00 South	$58.00** $80.35
HIS 252 Asia in the Modern World - 4 Sem Hrs - (4 contact hrs)	$58.00	$58.00**
HIS 270 Survey of Africa - 4 Sem Hrs - (4 contact hrs)	$58.00 Center $58.00 South	$65.85 $58.00**
(HUD) HUMAN DEVELOPMENT		
HUD 100 Self Evaluation and Exploration - 3 Sem Hrs - (3 contact hrs) Center Campus	$48.50	$48.50**

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
(HUM) HUMANITIES		
HUM 118 Humanities Survey I, Survey of the Arts - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$52.45
HUM 119 Humanities Survey II, Contemporary Arts and Ideas - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$54.00
HUM 121 Introduction to the Arts - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$44.50 - $54.45
HUM 122 Twentieth Century Art and Ideas - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$45.45 - $50.45
HUM 131 Experiences in Listening - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$50.45 $43.50*
HUM 133 20th Century Popular Music: From Jazz to Rock - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$45.95 $43.50**
HUM 146 The Film as Art - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $48.50 South	$48.45 $56.00 - $57.10
HUM 147 Selected Studies in Film 3 Sem Hrs - (3 contact hrs)	$43.50	$43.50**
HUM 161 The Visual Arts - 3 Sem Hrs - (3 contact hrs)	$43.50	$54.45**
HUM 170 Comparative Religion - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$47.75 $48.25
HUM 171 Contemporary Religious Thought - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$47.45 $43.50**
HUM 180 The American Art Experience - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$48.45 $43.50**
HUM 282 Seminar - An Inquiry Into the Future - 4 Sem Hrs - (4 contact hrs)	$58.00	$58.00**
HUM 290 Humanities Directed Studies - 1-4 Sem Hrs - (1-4 contact hrs)	$14.50 $58.00	$14.50** $58.00**

HYGIENE
See BIO, PED

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
ILLUSTRATION See GCA		
(ILS) INDUSTRIAL LABOR STUDIES		
ILS 101 Organization of Labor - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$43.50**
ILS 110 Labor and the Law - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$54.50
ILS 118 Collective Bargaining - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$56.45
ILS 119 The Arbitration Process - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$49.45
ILS 120 History of American Labor - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$43.50**
ILS 230 Labor Administration - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$46.45
ILS 280 Seminar in Labor Studies - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$43.50
INTERIOR DESIGN See GCA		
INTERNSHIP See BUS, OFF, TCI		
(ILT) INDUSTRIAL LABORATORY TECHNICIAN		
ILT 116 Industrial Laboratory Technician I - 3 Sem Hrs - (7 contact hrs) Center Campus	$58.50	$68.50**
ILT 117 Industrial Laboratory Technician II - 3 Sem Hrs - (7 contact hrs) Center Campus	$58.50	$63.50
ILT 226 Industrial Laboratory Technician III - 7 Sem Hrs - (13 contact hrs) Center Campus	$116.50	$126.50**
ILT 227 Industrial Laboratory Technician IV - 7 Sem Hrs - (13 contact hrs) Center Campus	$116.50	$126.50**

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
ITALIAN (ITA)		
ITALIAN CULTURE		
ITA 105 Survey of Italian Culture - 3 Sem Hrs - (3 contact hrs)	$43.50	$48.70
ITALIAN LANGUAGE		
ITA 110 Italian for Travelers - 2 Sem Hrs - (2 contact hrs)	$29.00 South	$36.90
ITA 126 Elementary Italian - 4 Sem Hrs - (5 contact hrs)	$58.00 South	$70.90
ITA 127 Elementary Italian - 4 Sem Hrs - (5 contact hrs)	$58.00 South	$58.00**
ITA 236 Intermediate Italian - 4 Sem Hrs - (5 contact hrs)	$58.00 South	$70.45
ITA 237 Intermediate Italian - 4 Sem Hrs - (5 contact hrs)	$58.00 South	$58.00**
(JOU) JOURNALISM		
JOU 100 Journalism - 2 Sem Hrs - (2 contact hrs)	$29.00 Center $29.00 South	$29.00** $29.00**
JOU 111 News Writing - 2 Sem Hrs - (4 contact hrs)	$29.00 Center $29.00 South	$38.00 $29.00**
JOU 112 Feature Writing - 2 Sem Hrs - (4 contact hrs)	$29.00 Center $29.00 South	$29.00 $29.00**
JOU 113 Public Affairs Reporting - 2 Sem Hrs - (4 contact hrs)	$29.00 Center $29.00 South	$29.00** $29.00**
LABOR STUDIES See BUS, ILS		
LAW See BUS, PLT		
(LAW) LAW ENFORCEMENT		
LAW 101 Police Recruit Training - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$43.50**

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
LAW 110 Criminal Justice - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$55.25
LAW 128 Police Organization & Administration - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$61.50
LAW 129 Patrol Administration & Procedures - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$59.50
LAW 132 Interviewing - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$68.45
LAW 140 Crime Causation - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$43.50**
LAW 141 Delinquency Prevention & Control - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$43.50**
LAW 142 Corrections Theory & Practice - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$43.50**
LAW 151 Highway Traffic Administration - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$54.05
LAW 235 Criminal Investigation & Laboratory Techniques - 4 Sem Hrs - (4 contact hrs) - Center Campus	$68.00	$83.75
LAW 237 Criminalistics I - 3 Sem Hrs - (3 contact hrs) Center Campus	$53.50	$53.50**
LAW 238 Criminalistics II - 3 Sem Hrs - (3 contact hrs) Center Campus	$53.50	$71.00
LAW 239 Criminalistics III - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$43.50**
LAW 268 Evidence & Criminal Procedures - 4 Sem Hrs - (4 contact hrs) Center Campus	$58.00	$65.00
LAW 269 Criminal Law - 4 Sem Hrs - (4 contact hrs) Center Campus	$58.00	$81.00
LAW 279 Directed Studies - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$43.50**

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
LITERATURE See Eng		
(LTA) LIBRARY TECHNICAL ASSISTANT		
LTA 110 An Introduction to Library Services - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$51.45
LTA 121 Acquisitions - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$52.00
LTA 131 Cataloging & Processing - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$53.45
LTA 132 Maintenance & Dissemination of Library Materials - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$52.00
LTA 141 Introduction to Audio-Visual Media - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$47.75
LTA 151 Reference & Bibliography - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$43.50**
LTA 260 Library Coordinated Internship - 3 Sem Hrs - (4 contact hrs) Center Campus	$43.50	$43.50**
MACHINE (LABORATORY & THEORY) See ATT		
MACHINE DESIGN See DSM		
(MCR) METROLOGY & CALIBRATION TECHNOLOGY		
MCR 100 Metric Orientation for the Metal Working Industry - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$38.50**
MCR 101 Metrology - 3 Sem Hrs - (4 contact hrs) South Campus	$43.50	$71.45
MCR 102 Statistical Quality Control - 3 Sem Hrs - (3 contact hrs) South Campus	$48.50	$52.55
MCR 110 Inspection Methods - 3 Sem Hrs - (3 contact hrs) South Campus	$48.50	$57.15

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
MCR 211 Metrology Laboratory - 3 Sem Hrs - (4 contact hrs) South Campus	$53.50	$53.50
MCR 220 Calibration of Mechanical Instruments - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$48.50
MCR 221 Calibration of Optical Instruments - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$48.50
MCR 222 Calibration Laboratory - 3 Sem Hrs - (4 contact hrs) South Campus	$53.50	$53.50
MEDICAL OFFICE PRACTICE/PROCEDURE See OFF, MOA		
METALLURGY THEORY See ATT		
(MGT) MANAGEMENT		
MGT 101 Principles of Management - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$56.45 $57.45
MGT 115 Personnel Management - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$43.50** $43.50**
MGT 120 Office Management - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$56.45
MGT 121 Small Business Management - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$56.45
MILLWRIGHT DRAFTING/THEORY See ATD, ATT		
(MKT) MARKETING		
MKT 101 Principles of Marketing - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$56.45 $56.45 - $60.95
MKT 102 Principles of Retailing - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$56.45 $55.45
MKT 201 Salesmanship - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$50.75 $56.45
MKT 202 Advertising - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$58.00 $58.00
MKT 204 Principles of Purchasing - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$59.45

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
MKT 205 Marketing Problems - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$43.50**
MKT 210 History of Fashion - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$43.50**
MKT 211 Fashion Merchandising - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$55.45
MKT 212 Textiles & Non-Textiles - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$43.50**
MKT 213 Fashion Analysis & Current Trends - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$43.50**
MKT 225 Marketing Strategy - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$43.50**
(MLT) MEDICAL LABORATORY TECHNICIAN		
MLT 106 Hematology - 5 Sem Hrs - (8 contact hrs) Center Campus	$87.50	$108.15
MLT 107 Urinalysis, Immunohematology, Serology - 5 Sem Hrs - (8 contact hrs) Center Campus	$87.50	$115.50
MLT 126 Clinical Practice I - 6 Sem Hrs - (40 contact hrs) Center Campus	$87.00	$87.00**
MLT 227 Clinical Practice II - 6 Sem Hrs - (32 contact hrs) Center Campus	$87.00	$87.00**
MLT 234 Clinical Chemistry & Instrumentation I - 5 Sem Hrs - (8 contact hrs) Center Campus	$92.50	$109.45
MLT 235 Clinical Chemistry & Instrumentation II - 3 Sem Hrs - (3 contact hrs) Center Campus	$53.50	$56.50
MLT 240 Seminar - 2 Sem Hrs - (2 contact hrs) Center Campus	$29.00	$29.00**
(MMT) METALS MACHINING TECHNOLOGY		
MMT 100 Metals Machining Survey - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$70.50

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
MMT 110 Metals Machining - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$48.50 - $70.50
MMT 120 Metals Machining Laboratory I - 3 Sem Hrs - (3 contact hrs) South Campus	$48.50	$48.50
MMT 226 Milling Problems & Applications - 3 Sem Hrs - (4 contact hrs) South Campus	$53.50	$53.50 - $75.50
MMT 227 Metals Machining Lab II - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$43.50
MMT 228 Grinding Problems & Applications - 3 Sem Hrs - (4 contact hrs) South Campus	$53.50	$53.50 - $75.50
MMT 229 Metals Machining Lab III - 3 Sem Hrs - (3 contact hrs) South Campus	$53.50	$53.50
MMT 249 Non-Traditional Machining - 3 Sem Hrs - (4 contact hrs) South Campus	$53.50	$64.00
(MOA) MEDICAL OFFICE ASSISTANT		
MOA 116 Medical Office Assisting I - 3 Sem Hrs - (3 contact hrs) Center Campus	$53.50	$64.45
MOA 117 Medical Office Assisting II - 3 Sem Hrs - (3 contact hrs) Center Campus	$53.50	$53.50**
MOA 126 Medical Laboratory Techniques I - 3 Sem Hrs - (3 contact hrs) Center Campus	$58.50	$58.50
MOA 127 Medical Laboratory Techniques II - 3 Sem Hrs - (3 contact hrs) Center Campus	$58.50	$58.50**
MOA 136 Medical Office Management I - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$43.50
MOA 137 Medical Office Management II - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$57.63
MOA 140 Medical Office Insurance Forms - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$43.50**
MOA 150 Internship - 3 Sem Hrs -(15 contact hrs) Center Campus	$43.50	$43.50**

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
(MST) METALLURGICAL SCIENCE TECHNOLOGY		
MST 106 Characteristics of Metals - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$66.00
MST 107 Metallurgy of Industrial Alloys - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$48.50
MST 110 Metallography - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$48.50
MST 202 Mechanics of Metals - 2 Sem Hrs - (2 contact hrs) South Campus	$34.00	$34.00
MST 210 Foundry Practice - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$58.50
MST 211 Heat Treatment - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$48.50
MST 213 Engineering Tests - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$78.50
MST 216 Metallurgical Lab Problems - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$48.50
(MTH) MATHEMATICS See also ATM, BMA, TMT		
MTH 005 Modern Fundamental Math - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$53.45 $43.50**
MTH 007 Beginning Algebra - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$56.00 $57.95
MTH 100 Intermediate Algebra - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$55.45 $58.95
MTH 110 Introduction to Computers - 4 Sem Hrs - (4 contact hrs)	$58.00 Center $58.00 South	$65.95 $58.00**
MTH 112 Programming-Basic Language - 1 Sem Hr - (1 contact hr)	$14.50 Center $14.50 South	$14.50** $14.50**

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
MTH 120 Survey of Mathematics - 3 Sem Hrs - (3 contact hrs)	$43.50 Center	$50.35
	$43.50 South	$43.50**
MTH 126 Mathematics for Education I - 3 Sem Hrs - (3 contact hrs)	$43.50 Center	$43.50**
	$43.50 South	$60.70
MTH 127 Mathematics for Education II - 3 Sem Hrs - (3 contact hrs)	$43.50 Center	$43.50**
	$43.50 South	$43.50**
MTH 133 Statistics - 3 Sem Hrs - (3 contact hrs)	$43.50 Center	$56.00
	$43.50 South	$56.45
MTH 136 Finite Math I - 4 Sem Hrs - (4 contact hrs)	$58.00 Center	$58.00**
	$58.00 South	$58.00**
MTH 137 Finite Math II - 4 Sem Hrs - (4 contact hrs)	$58.00 Center	$58.00**
	$58.00 South	$58.00**
MTH 141 College Algebra - 3 Sem Hrs - (3 contact hrs)	$58.00 Center	$68.95
	$43.50 South	$43.50**
MTH 143 Trigonometry - 3 Sem Hrs - (3 contact hrs)	$43.50 Center	$43.50**
	$43.50 South	$43.50**
MTH 145 Algebra & Trigonometry - 4 Sem Hrs - (4 contact hrs)	$58.00 Center	$69.95
	$58.00 South	$74.45
MTH 166 Analytic Geometry & Calculus I - 4 Sem Hrs - (4 contact hrs)	$58.00 Center	$74.95
	$58.00 South	$74.95
MTH 167 Analytic Geometry & Calculus II - 4 Sem Hrs - (4 contact hrs)	$58.00 Center	$58.00
	$58.00 South	$58.00
MTH 210 Fortran Programming - 3 Sem Hrs - (5 contact hrs)	$43.50 Center	$43.50**
	$48.50 South	$57.00**
MTH 266 Analytic Geometry & Calculus III - 4 Sem Hrs - (4 contact hrs)	$58.00 Center	$58.00**
	$58.00 South	$68.95
MTH 267 Analytic Geometry & Calculus IV - 4 Sem Hrs - (4 contact hrs)	$58.00 Center	$58.00**
	$58.00 South	$58.00
MTH 270 Differential Equations - 3 Sem Hrs - (3 contact hrs)	$43.50 Center	$43.50**
	$43.50 South	$43.50**

(MUS) MUSIC HISTORY & APPRECIATION THEORY & PERFORMANCE
See also HUM

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
(MUS) MUSIC HISTORY & APPRECITATION THEORY & PERFORMANCE		
MUS 106 Theory I - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$39.95 - $42.90
MUS 107 Theory II - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00**
MUS 109 Jazz Improvisation - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00**
MUS 116 Ear Training I - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00**
MUS 117 Ear Training II - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00**
MUS 126 Piano I - 2 Sem Hrs - (2 contact hrs) South Campus	$34.00	$41.95
MUS 127 Piano II - 2 Sem Hrs - (2 contact hrs) South Campus	$34.00	$34.00**
MUS 130 Concert Choir - 2 Sem Hrs - (4 contact hrs) South Campus	$34.00	$34.00
MUS 132 Chamber Choir - 1 Sem Hr - (2 contact hrs) South Campus	$19.50	$19.50
MUS 133 Chamber Orchestra - 1 Sem Hr - (2 contact hrs) South Campus	$19.50	$19.50
MUS 134 Concert Band (Wind Ensemble) - 2 Sem Hrs - (4 contact hrs) South Campus	$34.00	$34.00
MUS 135 Jazz Lab Band - 1 Sem Hr - (2 contact hrs) South Campus	$19.50	$19.50
MUS 141 Music Foundations for the Classroom Teacher - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00**
MUS 143 Chorus - 1 Sem Hr - (2 contact hrs)	$14.50	$14.50 **
MUS 151 Cornet Class - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00**
MUS 152 Mixed Brass Class - 2 Sem Hrs - (2 contact hrs)	$29.00	$29.00**

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
MUS 153 Clarinet Class - 2 Sem Hrs - (2 contact hrs) South Campus	$34.00	$36.40
MUS 171 Music Appreciation - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$43.50**
MUS 180 Applied Music - 1 Sem Hr - (1/2 Contact hr) South Campus	$14.50	$14.50**
MUS 208 Theory III - 4 Sem Hrs - (4 contact hrs) South Campus	$58.00	$68.95
MUS 228 Piano III - 2 Sem Hrs - (2 contact hrs) South Campus	$34.00	$34.00**
MUS 229 Piano IV - 2 Sem Hrs - (2 contact hrs) South Campus	$34.00	$34.00
MUS 271 Music History & Literature to 1750 - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$55.00
MUS 272 Music History & Literature Since 1750 - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$43.50**
(NCT) NUMERICAL CONTROL TECHNOLOGY		
NCT 100 Fundamentals of Numerical Control - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$41.00
NCT 116 Manual Programming of Numerically Controlled Machines - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$53.50
NCT 200 Management of Numerical Control Operations - 2 Sem Hrs - (2 contact hrs) South Campus	$34.00	$34.00
NCT 212 Numerical Control Machine Operation - 3 Sem Hrs - (4 contact hrs) South Campus	$48.50	$48.50**

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
NCT 224 Basic APT Programming - 3 Sem Hrs - (3 contact hrs) South Campus	$48.50	$88.50
NCT 226 Advanced APT Programming - 3 Sem Hrs - (3 contact hrs) South Campus	$48.50	$53.50
NCT 228 APT Programming Problems - 3 Sem Hrs - (3 contact hrs) South Campus	$48.50	$53.50
NCT 238 N/C Graphics I - 3 Sem Hrs - (3 contact hrs) South Campus	$48.50	$48.50
NCT 239 N/C Graphics II - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$43.50
(NSC) NATURAL SCIENCE		
NSC 115 Allied Health Physical Science - 4 Sem Hrs - (4 contact hrs)	$68.00 Center $58.00 South	$81.95 $58.00**
NSC 118 General Science 1 - 4 Sem Hrs - (4 contact hrs)	$68.00 South	$74.75 - $76.10
NSC 119 General Science II - 4 Sem Hrs - (4 contact hrs)	$68.00 South	$83.10
NSC 121 Physical Science - 4 Sem Hrs - (4 contact hrs)	$68.00 Center $58.00 South	$79.95 $58.00**
NSC 122 Life Science - 4 Sem Hrs - (4 contact hrs)	$68.00 Center $58.00 South	$81.90 $58.00**
NSC 130 Environmental Science - 4 Sem Hrs - (4 contact hrs)	$58.00 South	$69.95
NSC 140 Fundamentals of Nutrition - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$43.50** $54.00
NSC 220 Basic Horticulture - 3 Sem Hrs - (3 contact hrs)	$53.50 Center $43.50 South	$53.50 $43.50**
NSC 290 Directed Studies - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$43.50** $43.50**
NURSING See ADN, PNS		

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
OFFICE OCCUPATIONS		
See ACC, BCO, BMA, BUS, OFF, PLT, SHD, TYP		
(OFF) OFFICE SKILLS		
OFF 102 Office Machines - 3 Sem Hrs - (3 contact hrs)	$48.50 Center	$54.75
OFF 104 Records Management - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$58.56 $59.00
OFF 140 Medical Terminology - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$55.00
OFF 200 Personal Development - 2 Sem Hrs - (2 contact hrs)	$29.00 Center $29.00 South	$29.00** $38.95
OFF 231 Office Practice - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$47.45 $53.50
OFF 232 Office Procedures & Administration - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$43.50** $59.65
OFF 241 Medical Office Practice - 3 Sem Hrs (3 contact hrs) Center Campus	$43.50	$48.75
OFF 242 Medical Office Procedures - 3 Sem Hrs (3 contact hrs) Center Campus	$43.50	$59.95
OFF 243 Machine Transcription for the Medical Secretary - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$43.50
OFF 250 Office Cooperative Internship - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$43.50
OFF 268 Legal Secretarial Practices - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$43.50**
PAINTING		
See APA, ART		
PATTERN DRAFTING/THEORY		
See ATD, ATT		
(PED) PHYSICAL EDUCATION		
PED 100 Dynamics of Physical Activity & Conditioning - 2 Sem Hrs - (2 contact hrs)	$29.00 Center $29.00 South	$34.95 $34.95

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
PED 101 Dynamics of Physical Activity & Conditioning for Women - 2 Sem Hrs - (2 contact hrs)	$29.00 Center	$34.95
	$29.00 South	$29.00**
PED 102 Physical Conditioning - 1 Sem Hr - (2 contact hrs)	$14.50 Center	$17.45
	$14.50 South	$17.00
PED 103 Physical Conditioning for Women - 1 Sem Hr - (2 contact hrs)	$14.50 Center	$14.50**
	$14.50 South	$14.50 - $20.40
PED 104 Archery - 1 Sem Hr - (2 contact hrs)	$14.50 Center	$14.50**
	$14.50 South	$14.50 **
PED 105 Backpacking - 1 Sem Hr - (2 contact hrs) Center Campus	$14.50	$29.40
PED 107 Golf - 1 Sem Hr - (2 contact hrs)	$14.50 Center	$19.45
	$14.50 South	$16.80
PED 110 Bicycling - 1 Sem Hr - (2 contact hrs) South Campus	$14.50	$17.45**
PED 111 Bowling - 1 Sem Hr - (2 contact hrs)	$14.50 Center	$16.57
	$14.50 South	$16.95**
PED 112 Canoeing - 1 Sem Hr - (2 contact hrs) Center Campus	$14.50	$15.00 - $20.25
PED 113 Cross Country Skiing - 1 Sem Hr - (2 contact hrs) Center Campus	$14.50	$14.50**
PED 114 Gymnastics - 1 Sem Hr - (2 contact hrs) South Campus	$14.50	$14.50**
PED 115 Handball - 1 Sem Hr - (2 contact hrs) South Campus	$14.50	$16.45
PED 116 Jogging - 1 Sem Hr - (2 contact hrs) South Campus	$14.50	$17.50
PED 118 Beginning Modern Dance - 1 Sem Hr - (2 contact hrs)	$14.50 Center	$14.50**
	$14.50 South	$14.50**
PED 119 Intermediate Modern Dance - 1 Sem Hr - (2 contact hrs)	$14.50	$14.50**
PED 120 Racquetball - 1 Sem Hr - (2 contact hrs) South Campus	$14.50	$16.45

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
PED 121 Skiing - 1 Sem Hr - (2 contact hrs)	$29.50 Center $22.50 South	$29.50** $21.50 - $22.50**
PED 122 Track & Field - 1 Sem Hr - (2 contact hrs) South Campus	$14.50	$14.50**
PED 150 Basketball - 1 Sem Hr - (2 contact hrs) South Campus	$14.50	$14.50**
PED 151 Defense Tactics - 1 Sem Hr - (2 contact hrs)	$14.50 Center $14.50 South	$16.45 $17.45**
PED 152 Folk Dancing - 1 Sem Hr - (2 contact hrs)	$14.50 Center $14.50 South	$16.45 $14.50**
PED 153 Soccer - 1 Sem Hr - (2 contact hrs) South Campus	$14.50	$14.50**
PED 154 Volleyball - 1 Sem Hr - (2 contact hrs) South Campus	$14.50	$14.50**
PED 156 Badminton - 1 Sem Hr - (2 contact hrs) South Campus	$14.50	$17.45**
PED 166 Beginning Tennis - 1 Sem Hr - (2 contact hrs)	$14.50 Center $14.50 South	$16.45 $16.45**
PED 167 Intermediate Tennis - 1 Sem Hr - (2 contact hrs)	$14.50 Center $14.50 South	$14.50** $14.50**
PED 176 Beginning Fencing - 1 Sem Hr - (2 contact hrs) South Campus	$14.50	$17.50**
PED 177 Intermediate Fencing - 1 Sem Hr - (2 contact hrs) South Campus	$14.50	$14.50**
PED 180 Sailing - 1 Sem Hr - (2 contact hrs)	$29.50 Center $29.50 South	$29.50** $29.50**
PED 185 Beginning Swimming - 1 Sem Hr - (2 contact hrs) South Campus	$14.50	$14.50
PED 186 Intermediate Swimming - 1 Sem Hr - (2 contact hrs) South Campus	$14.50	$14.50
PED 188 Senior Life Saving - 1 Sem Hr - (2 contact hrs) South Campus	$14.50	$14.50**
PED 189 Water Safety Instructor - 1 Sem Hr - (2 contact hrs) South Campus	$14.50	$14.50**

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
PED 196 Beginning Scuba Diving - 1 Sem Hr - (2 contact hrs) South Campus	$14.50	$39.45 - $59.45
PED 197 Advanced Scuba Diving - 1 Sem Hr - (2 contact hrs) South Campus	$14.50	$14.50**
PED 250 Introduction to Physical Education - 2 Sem Hrs - (2 contact hrs)	$29.00 Center $29.00 South	$29.00** $29.00**
PED 257 Activities for Elementary School Children - 2 Sem Hrs - (2 contact hrs)	$29.00 Center $29.00 South	$29.00** $29.00
PED 256 Rules & Techniques of Officiating & Programming Sports - 2 Sem Hrs - (2 contact hrs)	$29.00 Center $29.00 South	$31.85** $44.95
PED 260 Hygiene - 2 Sem Hrs - (2 contact hrs)	$29.00 Center $29.00 South	$34.96 $40.95
PED 276 Standard First Aid & Personal Safety - 2 Sem Hrs - (2 contact hrs) Center Campus	$29.00	$30.95
PED 277 Advanced First Aid & Emergency Care - 4 Sem Hrs - (4 contact hrs) Center Campus	$58.00	$60.50
PED 278 First Aid Instructor - 2 Sem Hrs - (2 contact hrs) Center Campus	$29.00	$29.00**
PED 280 Directed Studies - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$43.50**
(PFS) PROFESSIONAL FOOD SERVICE		
PFS 100 Orientation to Commercial Foods - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$43.50**
PFS 110 Foods and Nutrition - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$55.95
PFS 126 Food Service Mathematics and Office Procedures - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$49.95
PFS 127 Food Service Accounting - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$64.05
PFS 136 Elementary Kitchen Practice - 4 Sem Hrs - (6 contact hrs) Center Campus	$78.00	$96.40

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
PFS 137 Quantity Food Preparation - 5 Sem Hrs - (8 contact hrs) Center Campus	$92.50	$120.30
PFS 140 Food Supervision - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$58.50
PFS 141 Selection and Storage of Food - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$57.35
PFS 142 Principles of Merchandising and Service - 2 Sem Hrs - (2 contact hrs) Center Campus	$29.00	$33.50
PFS 150 Directed Study - 1 Sem Hr - (1 contact hr) Center Campus	$14.50	$14.50**
(PHI) PHILOSOPHY		
PHI 201 Introduction to Philosophy - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$53.00 $50.00 - $56.95**
PHI 210 Introduction to Ethics - 3 Sem Hrs - (3 contact hrs)	$43.50	$43.50**
PHI 220 Introduction to Logic - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$55.45 $55.45 - $60.40
PHOTOGRAPHY See AVT, GCA		
(PHS) PHYSICAL SCIENCE		
PHS 103 Physical Science I - 4 Sem Hrs - (6 contact hrs) South Campus	$58.00	$74.50 - $82.95
PHS 104 Physical Science II - 4 Sem Hrs - (6 contact hrs) South Campus	$63.00	$63.00**
(PHY) PHYSICS See also ATT, TMT		
PHY 116 The Physical Universe - 4 Sem Hrs - (4 contact hrs)	$68.00 Center $68.00 South	$81.50 $85.45

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
PHY 117 Microphysics - 4 Sem Hrs - (6 contact hrs)	$58.00 Center $68.00 South	$68.95 $71.50**
PHY 218 Macrophysics - 4 Sem Hrs - (6 contact hrs)	$58.00 Center $68.00 South	$58.00** $87.45
PHY 219 Analytical Physics - 4 Sem Hrs - (6 contact hrs)	$58.00 Center $68.00 South	$58.00** $68.00**

PHYSICAL EDUCATION
See PED

PHYSIOLOGY
See BIO

PIANO
See MUS

(PLT) PARA-LOGAL TECHNOLOGY

COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
PLT 200 Michigan Legal System - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$38.95
PLT 208 Techniques of Legal Practice and Procudure I - 4 Sem Hrs - (4 contact hrs) South Campus	$58.00	$58.00**
PLT 209 Techniques of Legal Practice and Procedure - 4 Sem Hrs - (4 contact hrs) South Campus	$58.00	$59.65 - $67.95**
PLT 210 Mechanics of Real Estate Law - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$57.00
PLT 211 Principles of Family Law - 2 Sem Hrs - (3 contact hrs) South Campus	$29.00	$29.00**
PLT 212 Administration of Estates - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00
PLT 213 Proceeding Under the Federal Bankruptcy Act - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$31.75
PLT 214 Taxation in the Office of the General Practitioner - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00**
PLT 215 Advanced Business Law - 4 Sem Hrs- (4 contact hrs) South Campus	$58.00	$58.00

(PNS) PRACTICAL NURSING

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
PNS 156 Fundamentals of Practical Nursing - 11 Sem Hrs - (21 contact hrs) Center Campus	$169.50	$169.50**
PNS 157 Care of Mothers, Infants, and Children - 6 Sem Hrs - (28 contact hrs) Center Campus	$87.00	$99.50**
PNS 158 Care of the Adult Patient - 16 Sem Hrs - (32 contact hrs) Center Campus	$247.00	$247.00**
(PPM) POWERPLANT MECHANICS (AVIATION MECHANICS) See also AFM, APM		
PPM 211 Reciprocating Engines I - 3 Sem Hrs - (5.5 contact hrs) South Campus	$48.50	$53.50**
PPM 212 Reciprocating Engines II - 3 Sem Hrs - (5.5 contact hrs) South Campus	$48.50	$53.50**
PPM 213 Reciprocating Engines III - 3 Sem Hrs - (5.5 contact hrs) South Campus	$48.50	$53.50 - $55.75**
PPM 214 Lubrication Systems - 3 Sem Hrs - (4.25 contact hrs) South Campus	$48.50	$53.50**
PPM 215 Turbine Engines, Ground Operations and Service - 3 Sem Hrs - (5.5 contact hrs) South Campus	$48.50	$53.50**
PPM 232 Ignition Systems - 3 Sem Hrs - (5.5 contact hrs) South Campus	$48.50	$53.50**
PPM 233 Fuel Metering - 3 Sem Hrs - (4.25 contact hrs) South Campus	$48.50	$53.50**
PPM 234 Cooling, Induction and Exhaust Systems - 3 Sem Hrs - (4.25 contact hrs) South Campus	$48.50	$53.50**
PPM 235 Propellers - 3 Sem Hrs - (4.25 contact hrs) South Campus	$48.50	$53.50**
PPM 236 Engine Electrical Systems I, Fire Protection - 2 Sem Hrs - (3.75 contact hrs) South Campus	$34.00	$39,00**
PPM 237 Engine Electrical Systems II, Instrument System - 2 Sem Hrs - (3.75 contact hrs) South Campus	$34.00	$39.00**

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
PPM 238 Tests, Preparation and Practice (Systems and Components) - 3 Sem Hrs - (4.5 contact hrs) South Campus	$48.50	$52.00**
(PRT) PRINTING TECHNOLOGY		
PRT 100 Graphic Arts Survey - 2 Sem Hrs - (4 contact hrs) South Campus	$34.00	$34.00**
PRT 106 Letterpress I - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$48.50**
PRT 116 Offset Presswork I - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$48.50**
PRT 117 Offset Presswork II - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$48.50
PRT 127 Reproduction Camera I - 3 Sem Hrs - (6 contact hrs) South Campus	$58.50	$58.50
PRT 128 Reproduction Camera II - 3 Sem Hrs - (6 contact hrs) South Campus	$58.50	$58.50
PRT 138 Publications Production I - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$48.50**
PRT 148 Copy Preparation I - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$48.50
PRT 207 Letterpress II - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$48.50**
PRT 218 Offset Presswork III - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$48.50**
PRT 229 Reproduction Camera III - 3 Sem Hrs - (6 contact hrs) South Campus	$58.50	$58.50
PRT 230 Introduction to Editing & Publishing - 3 Sem Hrs - (6 contact hrs) South Campus	$43.50	$43.50**
PRT 239 Publications Production II - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$48.50
PRT 249 Copy Preparation II - 3 Sem Hrs - (6 contact hrs) South Campus	$48.50	$48.50

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
(PSC) POLITICAL SCIENCE		
PSC 100 Introduction to American Politics - 4 Sem Hrs - (4 contact hrs)	$58.00 Center $58.00 South	$59.95 - $64.50 $65.95 - $100.15
PSC 110 Contemporary Political Issues - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$43.50** $49.45
PSC 120 Governments of the Urban Area - 3 Sem Hrs - (3 contact hrs)	$43.50	$43.50**
PSC 140 Comparative Politics and Government - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$50.45 $43.50**
PSC 160 International Politics 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$43.50** $59.45
PSC 165 United States Foreign Policy - 3 Sem Hrs - (3 contact hrs)	$43.50	$43.50**
(PSY) PSYCHOLOGY		
PSY 101 Introductory Psychology - 4 Sem Hrs - (4 contact hrs)	$58.00 Center $58.00 South	$68.95 $70.95 - $80.85
PSY 150 Human Sexuality - 2 Sem Hrs - (2 contact hrs)	$29.00	$29.00**
PSY 216 Psychological Statistics - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$43.50** $57.45
PSY 217 Experimental Psychology - 4 Sem Hrs - (4 contact hrs)	$58.00	$58.00**
PSY 221 Child Growth and Development - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$60.40 $56.45 - $64.40
PSY 222 Psychology of Adolescence - 3 Sem Hrs - (3 contact hrs)	$43.50	$43.50**
PSY 230 Psychology of Adjustment - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$53.45 $48.00 - $62.40
PSY 240 Industrial Psychology - 3 Sem Hrs - (3 contact hrs)	$43.50	$43.50**
PSY 260 Social Psychology - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$54.45 $43.50**

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
RADIO & TV BROADCASTING/REPAIR See AVT, EST, SPH		
(RDG) READING		
RDG 005 Preparatory Reading & Study Skills - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$54.05 $43.50**
RDG 100 Efficient Reading and Study Skills - 2 or 4 Sem Hrs - (2-4 contact hrs)	$29.00 Center $58.00 Center	$39.55(2 Sem Hrs) $68.55(4 Sem Hrs)
	$29.00 South $58.00 South	$29.00**(2 Sem Hrs) $58.00**(4 Sem Hrs)
RDG 111 Developmental Reading & Study Skills - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$53.45 $43.50**
(REC) RECREATION LEADERSHIP		
REC 106 Introduction to Recreation - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$54.45
REC 117 Organization and Operation of Recreation Services - 4 Sem Hrs - (4 contact hrs) Center Campus	$58.00	$75.00
REC 126 Arts and Crafts - 2 Sem Hrs - (3 contact hrs) Center Campus	$34.00	$41.95
REC 127 Musical and Rhythmic Activities - 2 Sem Hrs - (3 contact hrs) Center Campus	$34.00	$39.00
REC 218 Group Leadership - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$51.45
REC 219 Recreation Centers and Playgrounds 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$58.50
REC 230 Recreation for Special Populations - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$55.45
REC 246 Recreation Field Work - 4 Sem Hrs - (8 contact hrs) Center Campus	$63.00	$63.00**
REC 247 Recreation Field Work II - 4 Sem Hrs - (8 contact hrs) Center Campus	$58.00	$58.00**

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
REFRIGERATION See ATR, CCT		
RELIGION See HUM		
RENDERING See GCA		
(RES) REAL ESTATE		
RES 111 Real Estate Principles (GRI-1) - (3 contact hrs) Center Campus	$43.50	$69.35 - $77.35
RES 121 Residential Building Construction - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$57.45
RES 231 Real Estate Appraisal - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$61.95
RES 232 Real Estate II (GRI-11) - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$43.50**
RES 241 Real Estate Finance - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$57.45
RES 251 Real Estate Law - 4 Sem Hrs - (4 contact hrs) Center Campus	$58.00	$71.00
RETAILING See MKT		
(RSP) RESPIRATORY THERAPY		
RSP 105 Introduction to Respiratory Therapy - 3 Sem Hrs - (4 contact hrs) Center Campus	$48.50	$84.90
RSP 116 Nursing Arts for Respiratory Therapy - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$64.00
RSP 117 Respiratory Therapy Procedures - 6 Sem Hrs - (8 contact hrs) Center Campus	$97.00	$97.00**
RSP 118 Applied Respiratory Therapy - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$43.50**

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
RSP 126 Clinical Practice - 6 Sem Hrs - (40 contact hrs) Center Campus	$87.00	$87.00**
RSP 227 Clinical Practice - 4 Sem Hrs - (20 contact hrs) Center Campus	$63.00	$63.00**
RSP 228 Clinical Practice - 4 Sem Hrs - (20 contact hrs) Center Campus	$63.00	$63.00**
RSP 230 Department Administration and Organization - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$69.50
RSP 240 Respiratory Therapy Seminar - 2 Sem Hrs - (2 contact hrs) Center Campus	$29.00	$29.00**
SALESMANSHIP See MKT		
SCIENCE See AST, BIO, CHM, GEL, NSC, PHS, PHY		
SECRETARIAL STUDIES See BCO, BMA, OFF, SHD, TYP		
(SHD) SHORTHAND		
SHD 126 Beginning Shorthand - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$62.60 $55.60
SHD 127 Intermediate Shorthand - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$56.40 $53.35 - $56.30
SHD 228 Shorthand Transcription - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$57.95 $59.85
SHD 229 Shorthand Speed Building - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$56.85 $56.85
SHD 248 Medical Shorthand - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50 Center	$43.50**
SHD 266 Legal Shorthand/Transcription - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$57.90
(SLP) SECURITY & LOSS PREVENTION		
SLP 110 Introduction to Security - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$56.45

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
SLP 111 Introduction to Industrial Safety - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$66.50
SLP 113 Industrial Fire Protection - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$50.45
SLP 121 Principles of Loss Prevention - 3 Sem Hrs -(3 contact hrs) Center Campus	$43.50	$54.45
SLP 132 Comparative Security Systems - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$43.50
SLP 140 Security Administration - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$58.45
SLP 250 Criminal, Civil & Administrative Law in Security Administration - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$43.50**
SLP 260 Directed Studies - 3 Sem Hrs (3 contact hrs) Center Campus	$43.50	$43.50**
(SOC) SOCIOLOGY		
SOC 100 Principles of Sociology - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$43.50** $53.50 - $60.40
SOC 110 Modern Social Problems - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$48.50 $43.50**
SOC 245 Marriage & the Family - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$48.50 $57.40
(SPH) SPEECH		
SPH 106 Speech Communication - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$53.45 $51.00
SPH 107 Advanced Public Speaking - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$43.50** $51.00**
SPH 110 Interpersonal Communication - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$43.50** $51.00 - $56.95
SPH 120 Group Discussion & Leadership - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$43.50** $43.50**

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
SPH 130 Voice & Speech Improvement - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$43.50** $55.30
SPH 146 Radio & Television Broadcasting - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$43.50** $56.45
SPH 147 Broadcasting Production - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$43.50** $56.45**
SPH 215 Oral Interpretation of Literature - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$53.45 $43.50**
SPH 250 Argumentation & Debate - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$43.50** $43.50**
SPH 251 Intercollegiate Debate - 1 Sem Hr - (1 contact hr)	$14.50 Center $14.50 South	$14.50** $14.50**
(SPN) SPANISH		
SPANISH CULTURE		
SPN 105 Survey of Spanish Culture - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$48.70
SPANISH LANGUAGE		
SPN 110 Spanish for Travelers - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$29.00**
SPN 126 Elementary Spanish - 4 Sem Hrs - (5 contact hrs) South Campus	$58.00	$74.90
SPN 127 Elementary Spanish - 4 Sem Hrs - (5 contact hrs) South Campus	$58.00	$58.00
SPN 236 Intermediate Spanish - 4 Sem Hrs - (5 contact hrs) South Campus	$58.00	$74.20
SPN 237 Intermediate Spanish - 4 Sem Hrs - (5 contact hrs) South Campus	$58.00	$58.00**
(SSC) SOCIAL SCIENCE		
SSC 118 Social Science - 4 Sem Hrs - (4 contact hrs)	$58.00 South	$58.00 - $62.95
SSC 119 Social Science - 4 Sem Hrs - (4 contact hrs)	$58.00 South	$65.95 - $70.90

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
SSC 121 Man & Society - 4 Sem Hrs (4 contact hrs)	$58.00 Center $58.00 South	$59.95 - $65.95 $58.00**
SSC 122 The American System - 4 Sem Hrs - (4 contact hrs)	$58.00 Center $58.00 South	$59.95 - $64.50 $58.00**
SSC 221 Eastern Europe & Its Heritage - 4 Sem Hrs - (4 contact hrs)	$58.00 Center $58.00 South	$58.00 $47.25
SSC 222 Eastern Europe in the Modern World - 4 Sem Hrs - (4 contact hrs)	$58.00 Center $58.00 South	$58.00** $58.00**
SSC 280 In Perspective - 1-4 Sem Hrs - (1-4 contact hrs)	$14.50 - $58.00 Center $14.50 - $58.00 South	$14.50-$58.00** $14.50-$58.00**
SSC 281 Social Science Honors Course - 3 Sem Hrs - (2 contact hrs)	$43.50 Center $43.50 South	$43.50** $43.50**
SSC 282 Seminar: An Inquiry into the Future - 4 Sem Hrs - (4 contact hrs)	$58.00 Center $58.00 South	$58.00** $58.00**
SSC 283 Community Involvement - 3-6 Sem Hrs - (96-240 contact hrs)	$43.50-$87.00 Center $43.50-$87.00 South	$43.50-$87.00** $43.50-$87.00
SSC 290 Directed Studies - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$43.50** $43.50**

STATISTICS
See MTH, PSY

(SUM) INDUSTRIAL SUPERVISION & MANAGEMENT

COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
SUM 100 Industrial Organization - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$60.00
SUM 110 Manufacturing Supervision - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$59.25
SUM 111 Industrial Relations - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$58.00
SUM 126 Process Engineering - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$62.45
SUM 140 Industrial Safety - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$52.35**

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
SUM 221 Quality Planning & Analysis - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$62.00
SUM 227 Product Estimating & Cost Determinations - 2 Sem Hrs (2 contact hrs) South Campus	$29.00	$38.65
SUM 230 Critical Path Method of Planning- 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$34.95
SUM 231 Traffic Management - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$50.50
(SUR) SURVEYING TECHNOLOGY		
SUR 110 Elementary Surveying - 3 Sem Hrs - (5 contact hrs) South Campus	$48.50	$64.50
SUR 220 Route Surveying - 3 Sem Hrs - (5 contact hrs) South Campus	$48.50	$64.50
SUR 230 Land Surveying - 3 Sem Hrs - (5 contact hrs) South Campus	$48.50	$64.50**
SUR 240 Theory of Surveying - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$59.50**
SUR 294 Advanced Surveying - 3 Sem Hrs - (5 contact hrs) South Campus	$48.50	$48.50
(TCP) TYPESETTING & COPY PREPARATION		
TCP 155 Introduction to Printing Processes - 3 Sem Hrs - (6 contact hrs) South Campus	$43.50	$43.50**
TCP 156 Copy Preparation Workshop I - 3 Sem Hrs - (6 contact hrs) South Campus	$43.50	$43.50**
TCP 157 Camera Ready Art I - 3 Sem Hrs - (6 contact hrs) South Campus	$43.50	$43.50**
TCP 158 Copy Preparation Workshop II - 3 Sem Hrs - (6 contact hrs) South Campus	$43.50	$43.50**
TCP 159 Camera Ready Art II - 3 Sem Hrs - (6 contact hrs) South Campus	$43.50	$43.50**
TELEVISION BROADCASTING/REPAIR See AVT, EST, SHP		
(TIC) TECHNICAL - INDUSTRIAL COOPERATIVE EDUCATION		

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
TIC 270 Industrial Cooperative Education - 3 or 6 Sem Hrs - (4 contact hrs) South Campus	$43.50/$87.00	$55.60/$94.10
(TMT) TECHNICAL MATH		
TMT 106 Technical Mathematics I - 4 Sem Hrs - (4 contact hrs) South Campus	$58.00	$68.95
TMT 107 Technical Mathematics II - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$57.45
TMT 116 Electro Mathematics I - 4 Sem Hrs - (4 contact hrs) South Campus	$58.00	$70.95
TMT 117 Electro Mathematics II - 4 Sem Hrs - (4 contact hrs) South Campus	$58.00	$58.00
TMT 120 Technical Physics - 4 Sem Hrs - (4 contact hrs) South Campus	$58.00	$73.50
TOOL DRAFTING/DESIGN See ATD, EDT		
(TYP) TYPEWRITING		
TYP 116 Beginning Typewriting -3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$57.40 $50.70
TYP 117 Intermediate Typewriting- 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$56.75 $50.70 - $54.10**
TYP 218 Advanced Typewriting - 3 Sem Hrs - (3 contact hrs)	$43.50 Center $43.50 South	$51.50 $51.15
TYP 219 Automatic Typewriting Systems - 3 Sem Hrs - (3 contact hrs)	$48.50 Center $48.50 South	$48.50** $48.50**
TYP 267 Legal Typewriting - 3 Sem Hrs - (3 contact hrs) South Campus	$43.50	$70.30
VET VETERINARY TECHNICIAN		
VET 110 Veterinary Technician I - 4 Sem Hrs - (5 contact hrs) Center Campus	$68.00	$68.00**
VET 121 Veterinary Technician II - 4 Sem Hrs - (5 contact hrs) Center Campus	$58.00	$58.00**

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COURSE	TUITION/FEES	TOTAL ESTIMATED COST*
VET 136 Veterinary Internship I - 8 Sem Hrs - (40 contact hrs) Center Campus	$116.00	$116.00**
VET 237 Internship - 4 Sem Hrs - (10 contact hrs) Center Campus	$58.00	$58.00**
VET 240 Animal Technology - 3 Sem Hrs - (3 contact hrs) Center Campus	$53.50	$53.50**
VET 250 Pharmacology - 3 Sem Hrs - (3 contact hrs) Center Campus	$43.50	$43.50**
VET 260 Veterinary Technician III - 3 Sem Hrs (4 contact hrs) Center Campus	$43.50	$43.50**
(WET) WELDING TECHNOLOGY See also ATW		
WET 116 Gas Welding I - 3 Sem Hrs - (4 contact hrs) South Campus	$58.50	$63.10
WET 126 AC-DC Arc Welding I - 3 Sem Hrs - (4 contact hrs) South Campus	$58.50	$77.50
WET 128 Gas Welding II - 3 Sem Hrs - (4 contact hrs) South Campus	$58.50	$58.50
WET 129 AC-DC Arc Welding II - 3 Sem Hrs - (4 contact hrs) South Campus	$58.50	$58.50
WET 136 Gas Tungsten Arc Welding I - 3 Sem Hrs - (4 contact hrs) South Campus	$58.50	$64.45
WET 237 Gas Tungsten Arc Welding II - 3 Sem Hrs - (4 contact hrs) South Campus	$58.50	$58.50
WET 238 Pipe Welding - 3 Sem Hrs - (4 contact hrs) South Campus	$58.50	$73.50
WET 240 Maintenance Welding - 3 Sem Hrs - (4 contact hrs) South Campus	$58.50	$58.50
WET 242 Tool & Die Welding - 3 Sem Hrs - (4 contact hrs) South Campus	$58.50	$58.50
WET 258 Welding Metallurgy I - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$42.00
WET 259 Welding Metallurgy II - 2 Sem Hrs - (2 contact hrs) South Campus	$29.00	$44.00
ZOOLOGY See BIO		

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PART V

A GLOSSARY OF FREQUENTLY USED WORDS

- ACADEMIC CALENDAR Refers to the method of dividing the academic year. At Macomb County Community College there are two academic calendars: the Division of Applied Technology (apprentice and related instruction) has a calendar of three fifteen week terms (called trimesters) while the rest of the college used two sixteen week semesters and a ten week summer session.

- ASSOCIATE DEGREE PROGRAM A program of instruction usually two or more years in length, designed to prepare a student for transfer to a four-year college or university, employment or to provide skill development and knowledge in either a specialized or general area. In addition to specialized coursework where appropriate, all associate degree programs require instruction in liberal arts/general education. Satisfactory completion of requirements is recognized by the awarding of an associate degree.

- CERTIFICATE PROGRAM A program of instruction less than two years in length, designed to prepare a student for immediate employment or to develop or upgrade skills and knowledge in a specialized area. Completion of requirements is recognized by the awarding of a certificate by the college.

- CONTACT HOUR (CONT. HR.) The number of clock hours a particular class is in session each week.

- CORE COURSES A group of courses in certain subject areas which have been designated as required for a specific certificate or associate degree.

- ELECTIVE A course or courses selected at the option of the student and applicable to the total number of courses needed to complete a particular certificate or degree.

- FORGONE INCOME See pp. 35-37

- FULL-TIME At Macomb County Community College, refers to a student who has enrolled for classes totalling 12 or more semester hours of credit.

- GENERAL EDUCATION Refers to courses not concerned with depth and breadth of coverage within a single discipline. Rather their objective is to provide representative ideas and methods of inquiry found within a cluster of disciplines. The principal methods of inquiry used in different disciplines are displayed in a manner that will allow students to be able to contrast as well as identify the commonality between various ideas and methods of inquiry found in various disciplines. Examples of general education courses are social science, natural science, and humanities.

- GRADE POINT AVERAGE (G.P.A.) This refers to a system of determining a student's academic standing in the college. Grade point average is found by multiplying the number of credit hours (semester hours) of a course by the point value of the grade received and then dividing the sum of the product by the number of credit hours. Point values for grades at the college are as follows: A = 4 points; B = 3 points; C = 2 points; D = 1 point; E = 0 points.

- LIBERAL ARTS Refers to courses concerned with fundamental disciplines or bodies of knowledge that are pure and distinctive forms of information. Consequently, such courses employ ideas, information and methods of inquiry that are found within the discipline being studied. Examples of liberal arts courses are psychology, chemistry and literature.

- OCCUPATIONAL EDUCATION At Macomb County Community College, this refers to instructional programs designed to train people for immediate employment after leaving the college. These programs include Allied Health, Applied Technology, Business, Industrial Technology, and Public Service.

- OPEN DOOR At Macomb County Community College, this refers to the policy of accepting for admission to the college all students who can benefit from higher education. Although there are no general entrance requirements to the college, students are required to meet specific criteria for admission to certain programs.

- PART-TIME At Macomb County Community College, this refers to a student who has enrolled for classes which add up to less than 12 semester hours of credit.

- PROGRAM Sometimes called a curriculum, it is a group of required or elective courses leading to a certificate, degree, or a particular educational goal.

- SEMESTER HOUR (SEM HR) Sometimes referred to as "credit hour", it is the number of credits a student earns in a given course by completing it with a passing grade. At Macomb County Community College, at least 62 semester hours of credit are required to earn an associate degree.

UNIVERSITY OF CALIF.
LOS ANGELES
MAR 17 1978
CLEARINGHOUSE FOR
JUNIOR COLLEGES